THE MIX

1ST FOR REVIEWS!

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Issue 62
June 99
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The UK's No.1 Recording Magazine

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best of both worlds

Gus Dudgeon is one of the 'original' producers. He's worked with Elton John, David Bowie and XTC

When I was recording engineer at Decca, in nineteen-hundred-and-frozen-to-death, I came to the conclusion that analogue was an extremely dodgy sound carrier. Why? Firstly because of the hiss – you could always tell where the tape-jockey had gone into 'record' and the music was about to be unleashed, and when you leadered up an album it was painful to suddenly hear the hiss disappear at the end of the song. Then there was the inevitable print-through you'd hear before the music even started, and the aggravating, but necessary, standard Decca practice of having to listen on line-out when recording the original backing track to spot any drop-outs as they went by on the multi-track.

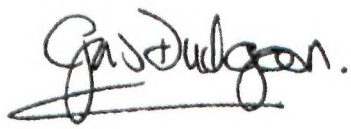
Now, although Ray Dolby has since dealt with the hiss problem, or most of it, what hasn't actually changed much is the inflexibility of analogue compared to digi. When digital recording first arrived, I was amongst the first to cheer. Here at last was a medium that actually gave you back what you put in. Leaving aside the opinion of boffins, who will tell you that cymbals don't die away as well on digi as analogue, and will baffle you with other tedious science, I've always believed that what really matters is the song, the performance and the arrangement – probably in that order. Don't forget, the first people to jump on digi as the perfect recording medium were the classical boys. And if it's good enough for them, then surely we can work with it?

Having said that, I totally understand those people who like 'the sound of analogue', due to its tape compression possibilities, and its tendency to add this mystical 'warmth'. I like that sound too, but they shouldn't knock digital recording for its supposed lack of warmth. In the past, I've advised people who have this opinion to record all their tracks on digi, thereby being able to do all the neat tricks that are only possible in the digital domain. Then, when your recording is finished, dub it to analogue and mix from that. That way you get the absolute best of both worlds.

Although I tell other people that's what they should try doing, strangely I had never actually done it myself until two weeks ago when I was doing a backing track for the TV show *Get Your Act Together*. My Otari 32-track digi created a bloody great drop-out in the middle of a drum track that had taken some time to create, and as I was under some pressure from the TV company to meet their deadline, the solution was to dub the whole thing to analogue, fix the missing section by finding a similar spot earlier in the song, copy that, and edit it in. Then I put the whole thing back onto digi, as I needed the extra tracks. Well, bugger me, there it was! That unmistakable analogue sound, and frankly, it sounded better for it... (plus, of course, a bit of hiss).

So, if nothing else, as I have finally found out that my theory, when put into practice, actually works, I can now recommend it even more highly!

Incidentally, the abbreviation for digital is 'digi', whereas the abbreviation for analogue is 'anal'. Knowwhaddimean?



Gus Dudgeon

contributors to this issue

Ian Waugh Journalist, author and our resident computer expert, Ian's opuses include *Making Music with Digital Audio* and *Music on The Internet*

Trevor Curwen West Country record producer/engineer Trevor has worked with top acts including Six by Seven, Portishead and Spiritualized

Seb Pecchia started out in the biz as an assistant engineer at Real World studios, before setting up Quest Music, his own production company/studio

about THE MiX

THE MiX is the essential accessory for the recording studio. Our equipment reviews, written by working producers and engineers, give you an impartial opinion of the latest studio and recording gear, and our interviews get to the heart of the current techniques and issues in the recording industry.

THE MiX Studio Series CD helps you produce better music, by providing a varied monthly selection of collectable studio-quality samples and MIDI files, demos of the latest software and hardware, and audio tutorials demonstrating contemporary recording techniques.

contents

reviews

28 Peavey StudioMix cover
Ian Waugh gets his hands on this hardware control surface for Cakewalk, and simply refuses to let go

34 Purple Audio MC76
A classic compressor in the making? *Trevor Curwen* prepares to get excited

37 TC|Works TC|Native Bundle cover
Yet more reverb, dynamics and EQ plug-ins for PC, eh? Yep, but this one's a runaway success, according to *Ian Waugh*

42 Røde NTV
Trevor Curwen rigs up the latest valve mic offering from Røde, and gets blown away

46 Aardvark Aark 20/20+
The new multi-channel PC interface gets the once-over from *Danny McAleer*, who emerges feeling fully expanded

50 Allen & Heath ICON DP1000
Paul Mac puts A&H's latest digital mixer through its paces and shows no signs of fatigue

54 JoeMeek C2
Is this diminutive compressor the essential tool for the project studio? *Alan Fisch* lends an ear

56 Aphex Aural Exciter cover
In this month's Modern Classic spot, *Seb Pecchia* revisits the good ol' Aural Exciter, and manages to avoid the obvious Big Bottom jokes

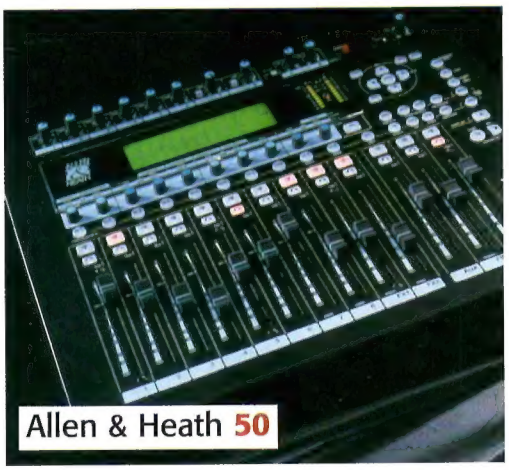
59 DUY DSPider
At last, you can design your own TDM plug-ins. *Paul Mac* feels legless at the prospect

64 TC Electronic M3000
Paul Mac gets acquainted with this marvel of a reverb unit, and has to be surgically separated from it afterwards

68 E-MU Proteus 2000
The latest in the Proteus range of synthesizers, the 2000 has *Seb Pecchia* excited at its more-natural-than-natural sounds

70 HHB CDR850
Trevor Curwen looks at HHB's latest baby, and finds a cost-effective and feature-packed CD recorder

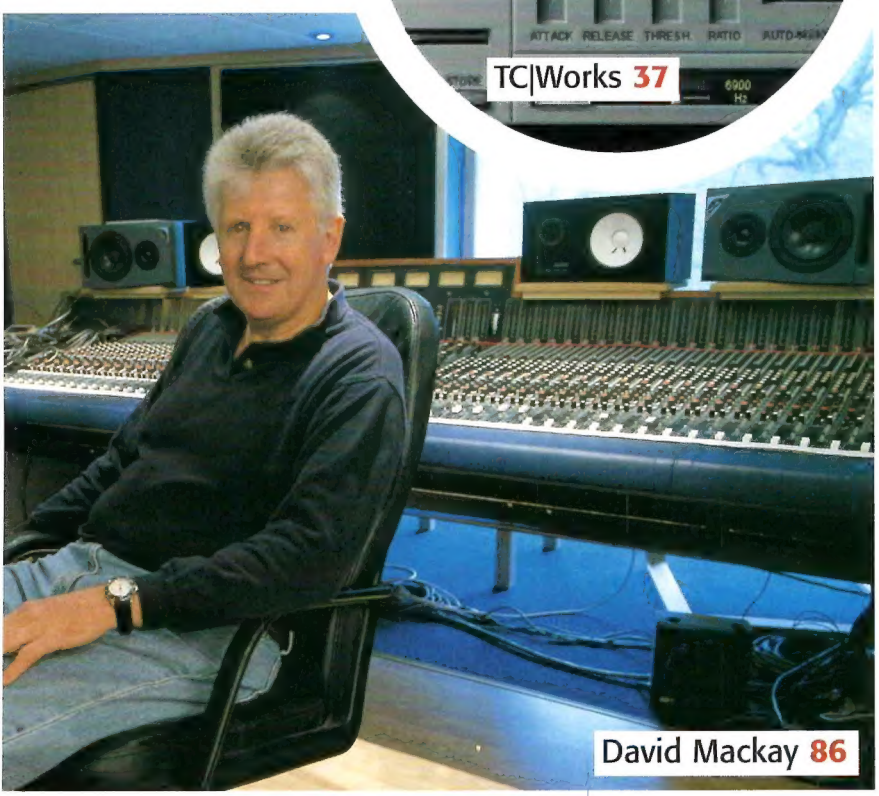
JoeMeek C2 **54**


Allen & Heath **50**

HHB CDR850 **70**

Peavey StudioMix 28

TC|Works 37



David Mackay 86

features

76 Inside A&R: Part 2 cover
In our final instalment, *Nick Serre* talks to top bands about how they got signed, and gets the A&R heads' side of the story

82 Studio File
In its 20th year, Terminal is renowned as a world-class rehearsal facility. *Nick Serre* touches down

86 David Mackay
From The New Seekers to Dusty Springfield, he's worked with the pick of the crop. *Douglas McPherson* visits the last of the record men

122 Q&A
This month, it's Groove Tubes' CEO Aspen Pittman under the spotlight. *Nick Serre* asks the questions

regulars

8 News
New gear, famous faces, and the latest industry gossip

24 Open Mic
Get your voice heard on today's burning music production issues

74 Album Reviews
Our verdicts on the biggest and best albums released this month

93 Toolbox
Advice, news and software for Mac and PC users

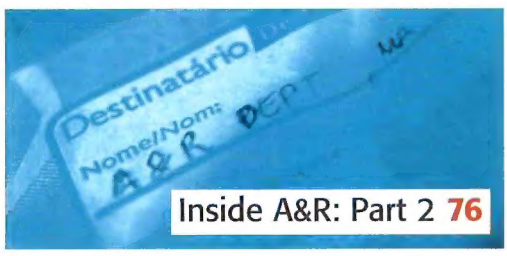
108 A&R Dept
Readers' demos rated or slated by our resident guru

110 Readers' Ads
Check our free ads for secondhand bargains galore

sound advice

98 Help File
Problems in the studio? Our team of experts turn audio agony aunts to solve your technical torments

102 Roland Space Echos cover
Trevor Curwen goes loopy over the classic Roland Space Echo tape delay units



Inside A&R: Part 2 76

cd contents

software

track 1

MAC
FSED (page 96)
Yamaha's free FS1R Editor reaches the parts which are hard to find using the synth's front panel controls

MIDIGraphy (page 96)
The latest version of MIDIGraphy, the shareware MIDI sequencer

PC
AuditionIT!
Shareware demo of sample auditioning tool for Windows

FS1RVoices (page 93)
Two collections of voices for Yamaha's new FS1R synthesiser, in MIDI file format

Hyperceive (page 93)
An audio sequencer for transferring sound and music over the web

S1100DX (page 93)
The Signum S1100 DX sampler, which looks and works like an Akai sampler

samples

tracks 10-15

Beatnik
Lo-fi guitar samples exclusively recorded for *The Mix* by Lee Blemmings and Duncan White, courtesy of Beatnik Samples (www.beatnik.co.uk)

10 Grungelizer i-vi
11 Amp Experimentz i-iv
12 Amp Experimentz v-xiv
13 Funky Punk i-iv, Squeak 'n' speak, Spooker
14 Disfunktional i-iii, Harm-horrids
15 Lo-fi FX i-viii

tracks 23-30

Richey T
40 assorted FX, phrases, notes, distortions, and general madness

tracks 16-22

University of Westminster
Jimmy Beige gets other-worldly with notes, chords and lo-fi FX:
16 Major Chords
17 Minor Chords
18 Open Strings
19 Phrases 1
20 Phrases 2
21 FX 1
22 FX 2
(engineered by Stuart Mason and James Gray)

demo of the month

track 2

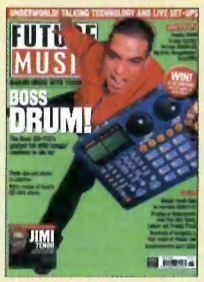
Too Many Gurus 'Dreamtime' (page 108)
"A fusion of frequencies fashioned to tickle your eardrums..." Their words, but, hey, they're just about right

about *The Mix* Studio Series CD

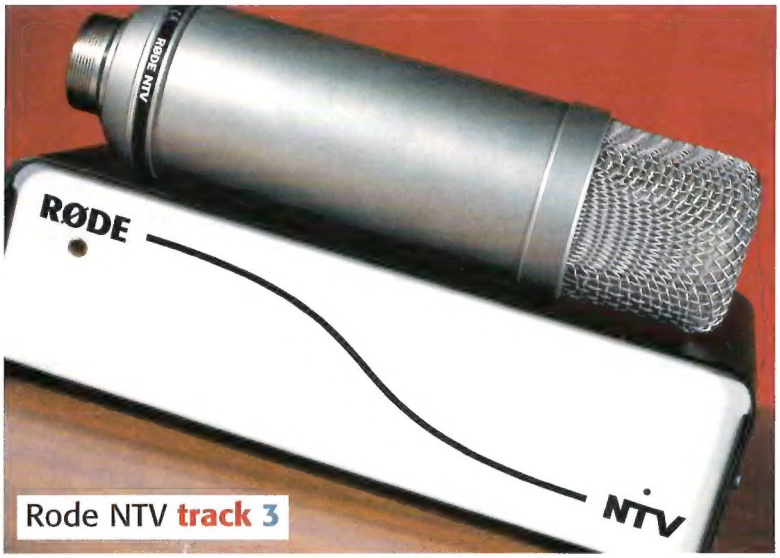
Every month, the Studio Series CD brings you a selection of top-quality samples that you can collect to build your own sample library. Each CD is themed, with one instrument/sound-type featured at a time, and using our colour coding system you'll be able to locate samples quickly and easily.

MIDI files and synth sounds on the CD also follow the theme – this way you have instant production tools at your disposal. Need a drum track? Just go to the correct CD, load up the samples and corresponding MIDI files, and you're away...

also available from us



Future Music, Guitarist, Total Guitar, Rhythm, Bassist, Guitar Techniques, Hip Hop Connection, and Classic CD



Rode NTV **track 3**

Purple Audio MC76 **track 5**

TC Electronic M3000 **track 9**

gear demos

track 3

Rode NTV Microphone (page 42)

(i) Male vocals
(ii) Acoustic 12-string guitar
(iii) Acoustic auto harp

track 4

Purple Audio MC76 (page 34)

All with extreme compression:
(i) Room drum mic (Rode NTV) with all ratios on for sucking cymbal effect
(ii) Uncompressed piano
(iii) Compressed piano
(iv) DI'd Fender Strat at 12:1 ratio

track 5

E-MU Proteus 2000 (page 68)

(i) Classical guitar samples with real time editing of attack, dynamics and effects
(ii) Bass groove with real time editing
(iii) Layered samples with modulation and real time effects edits

track 6

Aphex Aural Exciter (page 56)

(i) Dry Piano
(ii) Piano with Big Bottom
(iii) Dry analogue bass line
(iv) Analogue bass line with Exciter
(v) Analogue bass line with Big Bottom and Exciter switched in and out

track 7

Roland RE201 Space Echo (page 102)

(i) Seven echo modes with reverb. One repeat at slowest setting
(ii) Seven echo modes with additional repeats
(iii) Dry female vocal, then with echo, then with echo with too much intensity
(iv) Synth note with intensity control turned up full then repeat rate tweaked up

track 8

DUY DSPider (page 59)

A simple loop with a kit and bass. First the kit and then the bass are subjected to a selection of the more unusual DSPider patches supplied with the software. Alternate dry and wet bars. Sounds from *The Mix* CDs

track 9

TC Electronic M3000 (page 64)

A short, looped mix with four components each successively given the M3000 treatment: kick (Twang reverb), bass (Ambient), snare (Drum Booth), and vocals (Small Wood Room)

news

If it's new and it's music production, it's here. All the gear, gossip, and goings-on from a month in the biz...

Korg wield their Triton

Unveiling their major new workstation, Korg stole the limelight at Europe's biggest annual music technology trade show...

Korg have been very, very busy. This year at the Frankfurt Music Messe they launched four new products: the new Triton workstation, the Kaoss Pad, and the two new Electribe DSP analogue dance tools – the ER-1 DSP Rhythm Synth, and the EA-1 DSP Analogue Modelling synth.

The biggy was the Triton. This new and feature-packed workstation combines synthesizer, sequencer, percussion, effects, a stereo sampler, and dual polyphonic arpeggiators. Additionally, the user can install extra PCM waveform board options and a 6-voice MOSS DSP synth board, which adds the power of the Z1 physical modelling synth.

Triton is based around a 62-voice tone generator with the new Hyper Integrated Synthesis System, which gives you 32Mb of 48kHz PCM samples, processed with five stereo insert effects, two master effects, and a master EQ section. Those PCM samples, or your own, are assigned to an oscillator and processed by the filter and LFO sections. LFO frequency can be linked to the sequencer or arpeggiator so that it follows changes in tempo.

The built-in sampler has many editing functions. The large TouchView display makes editing easy, and the memory can be upgraded with standard memory SIMMs. The sampler can be expanded to 64Mb and can import WAV, AIFF, and Akai file formats.

The new Korg Electribe products use some major DSP power to create dance-orientated synth and percussion, complete with a pattern-based sequencer, The EA-1 is an analogue modelling synth containing two of the tone generators from the Korg Prophecy and Z1 synths. The ER-1 models an analogue style drum machine with four tone generators.

The Kaoss Pad is a dynamics processor and five-second sampler with a performance interface that had many fingers moving at the Music Messe. Filters, delays, pitch shifters, flangers, phasers and reverbs can all be controlled using the Kaoss X-Y pad, a touch sensitive pad divided into four quadrants. As well as its own internal sounds (and the speed/direction of the sample), the X-Y Pad can be used as a controller for external MIDI gear.

Prices: TBA

More from: Korg (UK) Limited

Tel: 01908 857100

Web: www.korg.com

SuperNova hots up

New operating system looks set to make the SuperNova synth more powerful than ever

Novation have announced the SuperNova V3 operating system for their SuperNova analogue modelling synthesizer (reviewed in *The Mix* issue 54).

The polyphony of the standard 16-voice model has been increased to 20 (44 on the 32-voice model), and the ASM synth engine has been "Enhanced, providing even clearer and cleaner analogue emulation." In the effects section, SuperNova has 16 new reverb algorithms, 12 series/parallel effects combinations, and an inter-effect morphing function. To round it off, a whole bunch of new sounds have been added that make use of the new features. You can download the new software from Novation's website, and all new SuperNovas now come with V3.

New features in V3:

- 20-voice polyphony expandable to 44 voices with three oscillators per voice
- Enhanced analogue sound modelling
- 16 new reverb algorithms
- 12 new effect configurations
- Improved MIDI spec
- New V3 factory sounds

SuperNova is a digital synth that emulates classic analogue synths. All of the front panel controls (126 in total) combine to edit a powerful synth engine that (thanks to V3) can drive the 20 and 44-voice polyphony of the two models.

Price (20-voice SuperNova): £1,199

More from: Novation

Tel: 01628 828888

Web: www. nova-uk.com

Focusrite compound it!

At the Frankfurt Music Messe this year, Focusrite announced the next in their Platinum series processors. Hot on the heels of their ToneFactory and VoiceMaster units, the new ComPounder stays with the theme of quantity and quality for less cash.

The ComPounder is a class A noise gate, compressor, and opto-limiter. All of the stages have a comprehensive list of features and parameters, not least of which is the Bass Expand control in the compressor section, with its 'Huge' button for extra phat sound!

The noise gate section features adjustable threshold and release/hold parameters and buttons for fast attack, full range, expansion, hold, key, and effect in. The compressor looks particularly comprehensive with a choice between soft and hard knee compression characteristics, and the complete set of compression controls. The bass expansion function is intended to give, "Serious hard punching results for dance and techno tracks."

Features: Focusrite ComPounder

- Low distortion class A design
- Opto gate/expander
- Expander switch
- Hard/soft knee compression
- Bass expander with HUGE button
- Opto limiter with active threshold control
- Independent stereo linking for compressor and limiter functions

Price: £499

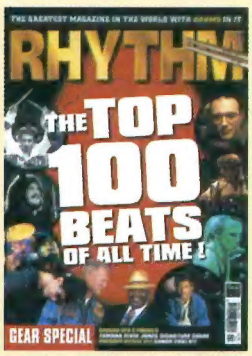
More from: Focusrite Engineering Ltd

Tel: 01494 462246d

Web: www.focusrite.com

in brief

The bods over at *Rhythm*, our sister magazine for drummers, have got their greasy mitts on a fabulous Roland V-Drum system (reviewed in *The Mix* issue 47). The good news is that they're giving it away in a special competition in their April issue! The ultra-special prize includes a trip to Roland's secret Swansea nerve centre for a weekend of instruction and entertainment with Roland V-Drum expert Tommy Snyder and UK demonstrator Steve Williams. Guess you'd better pick up the April Issue of *Rhythm* to find out how you can win.



In this month's edition of our sister magazine *Computer Music*, you can read all about what today's musician really needs to know about MIDI, and take a look at the load of MIDI utilities that are ready and waiting for musicians out there on the internet. On the cover CD-ROM, there's 200 samples and a FREE copy of Techno Creator, which lets you create dance music in minutes. The kids'll love it! And of course, there's all their usual tutorials (20-odd pages-worth!) plus 32 new computery products tested and rated. Get it now.

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Yamaha goes optical

A new digital multitrack recorder is on the horizon, and this one's even coffee-proof

Yamaha have announced the release of a new digital multitracker. The D24 is an 8-track recorder that uses a 3.5" magneto-optical storage system. You can use the standard overwrite type 640Mb MO disks for 8-track simultaneous recording, and with another eight virtual tracks per real tracks, it gives a 64-track total. The D24 does 16, 20, and 24-bit recording at 44.1kHz and 48kHz onto eight tracks, and at 88.2kHz and 96kHz onto four tracks.

The D24 features audio time compression and expansion for video fitting, and song/part editing functions, with a accuracy of one-tenth of a frame and a non-destructive edit buffer.

Yamaha are keen to point out the 'optical advantage', stating that the optical disk media they have chosen offers zero physical contact between the medium and recorder head, thus eliminating head or media wear. MO disks are not susceptible to magnetic fields, and Yamaha say, "Even spilling coffee on a disk will not damage the stored data."

Features

- 8-track simultaneous recording
- Uses standard 640Mb MO disks
- 16, 20, and 24-bit recording
- Virtual track function for 64-tracks total
- 99 locate points per song
- Time compression and expansion
- Copy, cut, and paste editing for songs/parts
- 99 take memories for auto-punch
- Jog and shuttle
- ±6% pitch control
- A-B repeat
- SMPTE, MTC, Wordclock, V-sync, MMC, and 9-pin synchronisation standards

Price: TBA

More from: Yamaha-Kemble Music

Tel: 01908 366700

Web: www.yamaha.co.uk

Mackie get bigger

Ever expanding, Mackie Designs have created a new division – Mackie Designs UK. Tony Williams, former MD of Key Audio Systems, will be overseeing the UK operations, and he commented: "Mackie Designs are legendary for product quality and phenomenal business success and I look forward to building on their deserved reputation. Mackie's new investment in the UK reflects their great confidence and commitment to provide a first class service for their customers."

US-based Mackie Designs are renowned for their mixing consoles. Their most recent products include the HUI (Human User Interface) for ProTools (reviewed issue 45), and the D8B (Digital 8•bus) mixing console. Look for a review in *The Mix* soon.

More from: Mackie UK

Tel: 01268 571212

L-R: Phil Price and Tony Williams of Mackie UK, and Roy Wemyss of Mackie Designs Inc

in brief

The May issue of our sister magazine, *Future Music*, is out now for all you bedroom music-makers. Read their hot interviews with Underworld, Freddy Fresh, Jimi Tenor and Looper. Check out the reviews of all the latest sound gear, including the Boss DR-770 Dr Rhythm machine, Yamaha's SU700 loopstation, Terratec's EWS64 XXL soundcard with Microwave synth attached and loads more. There's also a step-by-step guide to reproducing Moby's 'Go in Classic' track, and the usual great selection of tracks and samples on the cover CD. It's on sale now!

Synchro Arts Limited have announced a major addition to their popular TITAN program that enables ProTools and AudioVision post-production editors to conform audio in minutes rather than hours. This new function, Flash Conform, adds to TITAN's arsenal of time-saving functions, which include automatic sync correction of conformed audio, as well as functions to reconform from editors' change lists.

More from: Synchro Arts Limited

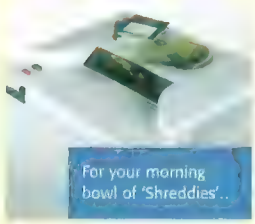
Tel: 01372 811934

in brief

Intimus have launched a new machine for discarding obsolete CDs: the Intimus 501 CD Shredder (£1,879). It's specifically designed for destroying unwanted CD-ROMs and 3.5" diskettes and can process between 800 and 1200 pieces per hour. You just feed your disks into the inlet slot and watch them get sliced and diced into tiny pieces. It takes a very specific type of person to enjoy using this product...

More from: Schleicher & Co.

Tel: 01293 441900



For your morning bowl of 'Shreddies'..

London-based mastering engineer Jon Astley has chosen the TL Audio PP10 digital multiprocessor for his own studio, and has already used it in remastering the early Tears For Fears albums. He was looking for a high-quality digital dynamics and EQ processor that could support higher sample rates, and he said, "...Its sound quality was instantly apparent... I put it straight to work." The new V3 software for the PP10 features 96kHz support, increased processing performance, and improved MIDI support.

More from: TL Audio

Tel: 01462 680888

Jon and his PP110

ADAT bounces back

Alesis report biggest-ever sales in 1998

It seems that reports of the demise of the digital 8-track tape recorder have been grossly exaggerated. On the contrary, 1998 turned out to be a vintage year for Alesis's ADAT format, with sales up by 63% in the UK, according to distributor Sound Technology. Even more amazing is the fact that, despite more competition than ever from hard disk recording systems, there were more ADATs sold in 1998 than any other year.

Commenting on this impressive statistic, Sound Technology MD Alan Greensall said "The Alesis ADAT is the industry-standard digital multitrack recorder with over 110,000 units sold worldwide. The ADAT optical digital transfer protocol and the ADAT synchronisation system are fast becoming standards in their own right. With the launch of the Alesis PCR card in the first quarter of 1999, Alesis and Sound Technology are committed to the ADAT format for many years to come."

The ADAT range has come a long way since the original 'black' ADAT – models now range from the LX20 and XT20 (reviewed in issue 48) through to the professional M20. Look out for a full review of the M20 next month in *The Mix*.

More from: Sound Technology

Tel: 01462 480000

Web: www.alesis.com

The ADAT format is live and kicking. Here's the 20-bit XT20 taking the air

Cubase goes surfing

Internet music-making is set to take another step forward, with the announcement that Steinberg have added a new technology called 'RocketPower' to their industry-standard Cubase sequencing software, with other software manufacturers expected to follow suit.

RocketPower makes Cubase directly compatible with RocketControl, the latest development from internet music software developers Res Rocket. The company's DRGN software, launched in 1997, allowed users to collaborate on music over the internet in real-time, leading to the formation of the world's biggest band.

Now RocketControl brings these capabilities into the pro arena, with support for digital audio and a variety of music software. End users of applications that have RocketPower can collaborate in real-time on the net with anyone using any other RocketPower application, on any platform. Look out for RocketControl in the summer of '99.

More from: Rocket Network

Web: www.rocketnetwork.com

Res Rocket founders: (L-R) Willie Henshall, Canton Becker, Tim Bran and Matt Moller. And a doggie

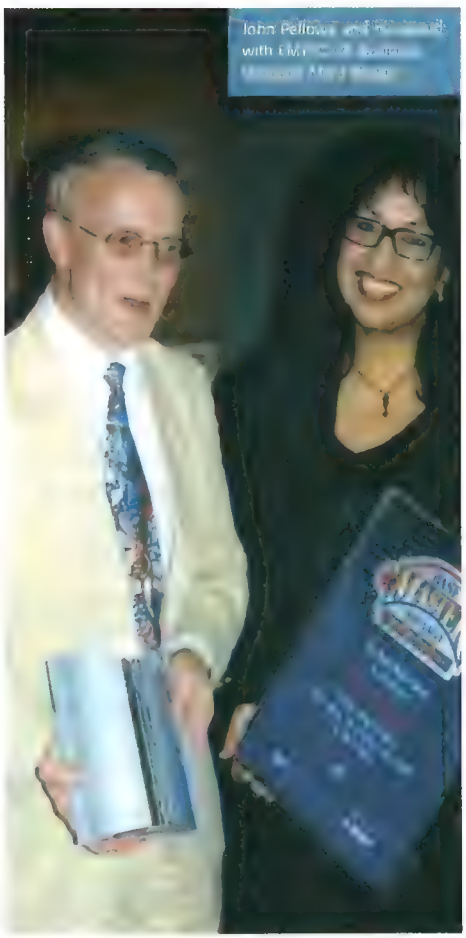
BASF award for the three tenors

Abbey Road team takes the honours...

Suppliers of BASF magnetic media, EMTEC Magnetics UK, recently presented BASF Master Awards to the production team behind the *Three Tenors Live In Paris* CD at Abbey Road studios. The album, which reached No.1 in the classical recording charts, was spearheaded by sound engineering director John Pellowe. Recorded in front of a 600,000 strong Paris audience with three mobile studios, the recording was then mixed at Abbey Road's Penthouse Suite studio.

More from: EMTEC Magnetics

Tel: 01295 227800



next month in THE MIX

DynaMIX
We'll be looking at the latest addition to Drawmer's MX range of dynamics processors: the MX60, an all-in-one voice channel for those on a budget. And we've also got our hands on the all-valve masterpiece of compressor engineering from Chiswick Reach.

Vamp-an-amp
We've got the amazing Line 6 POD guitar amp simulator. It's based on their acclaimed TDM plug-in, Amp Farm, and can simulate just about any classic amp/speaker combo you could mention.

Rounded sound
HHB have sent us the next in their Circle studio monitors, the Circle 3s. They're smaller and cost less, but do they sound as good? At the other end of the recording chain, we've got the new (and competitively priced) Earthworks condenser microphone.

Righteous recorder
In next month's *Modern Classic* slot, we examine the ADAT phenomenon and take a look at the top-of-the-range M20.

David Arnold
Film composer *extraordinaire* David Arnold discusses the techniques behind scoring films like *Godzilla* and *Tomorrow Never Dies*, just before he embarks on his latest Bond adventure.

Trevor Horn
The world-class producer and Art Of Noise die-hard gives a rare, uncut interview about the new Art of Noise album, and shares his (always thought-provoking) ideas about record production.

Don't miss the July issue of *The Mix* – onsale 18 May

Sonicomp's got a little brother

New compressor set to make its way into discerning project studios 'round the world

ORAM Professional Audio have announced their follow-up to the Sonicomp 2 compressor... It's the Sonicomp 1! This 1U version of their high-end compressor is intended to find its way into discerning project studios around the world. It features a choice between vintage LDR (light-dependant resistor) compression and solid-state compression, giving maximum flexibility.

Both compressors are identical in sonic performance, but Sonicomp 1 has LED metering rather than large VU meters. Both have LDR/solid-state switching and are linkable 2-channel units, with a similar look.

Features: Sonicomp 1

- Individual solid-state/LDR switching
- Input and compression metering
- 2-channel linkable
- Input level, threshold, ratio, attack, release, and output level controls
- Bypass
- 1U rackmount

Price: £1,733

More from: Oram Professional Audio

Tel: 01474 8153000

Web: www.oram.co.uk

It's somethin' else...

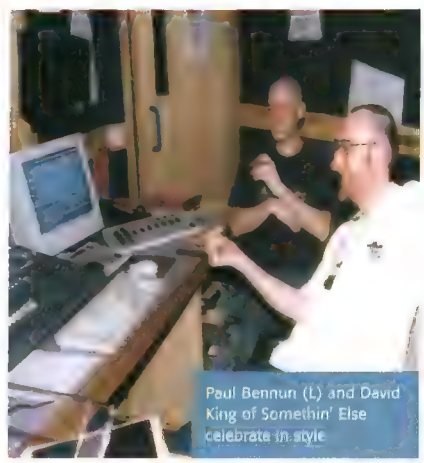
The London-based creative radio and sound design company Somethin' Else Sound Directions has just been refurbished by Raper & Wayman Sound Engineering. The installation features an extensive range of production equipment, and facilities now include a Yamaha 02R, TC Electronics Finaliser and Dynaudio monitors, among other goodies.

Somethin' Else director Paul Bennun commented: "We produce at least nine programmes per week, which is more than any other independent radio production facility in the country, so the design of the studios and the choice of production equipment was a high priority for us.

"We had already spoken to a number of sound engineering companies, but after a recommendation from a colleague, we contacted R&W Sound Engineering. They submitted the most cost-effective quote, offering all the right equipment, and they also seemed like a very professional and trustworthy outfit, so it was only natural that we went with them."

More from: R&W Sound Engineering

Tel: 0181 800 8288



Paul Bennun (L) and David King of Somethin' Else celebrate in style

HHB

CDR850

Compact Disc Recorder

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Guildford Tel: 01483 456777

DAWSONS
Warrington Tel: 01925 632591

DIGITAL VILLAGE
Barnet Tel: 0181 440 3440

DIGITAL VILLAGE
Croydon Tel: 0181 407 8444

DIGITAL VILLAGE
London W3 Tel: 0181 992 5592

EDDIE MOORS MUSIC
Bournemouth Tel: 01202 395135

THE GUITAR & AMP CENTRE
Brighton Tel: 01273 676835

KGM / SOUND CONTROL
Wakefield Tel: 01924 371766

THE M CORPORATION
Nottingham Tel: 0115 9474070

THE M CORPORATION
Ringwood, Hampshire Tel: 01425 470007

MUSIC CONNECTIONS
Birmingham Tel: 0121 212 4777

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Bristol Tel: 0117 946 7700

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Chelmsford Tel: 01245 354777

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MUSICAL EXCHANGES
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Coventry Tel: 01203 635766

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MUSIC VILLAGE
Romford Tel: 0181 598 9955

Q MUSIC
Birmingham Tel: 0121 643 4655

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SOUND CONTROL
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Dunfermline Tel: 01383 733353

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Visit HHB on line at http://www.hhb.co.uk

CD-R

WE JUST CHANGED THE RULES

Thought you couldn't afford a fully loaded, professional CD recorder? Well HHB just changed the rules. The stunning new HHB CDR850 combines cool looks, a great sound and a budget-friendly price with all the features you need for serious studio use, easily accessible from the front panel via a straightforward menu system.

The most comprehensively equipped CD-R in its class, the CDR850 uses both write-once CD-R discs and CD-RW rewritables, and makes recording a one touch operation, thanks to four easy record modes, auto copying of CD, DAT, MD, DCC and DVD track starts, and a built in sample rate converter.

Things are equally impressive round the back, where you'll find XLR balanced and RCA phono analogue inputs and outputs, coaxial and optical digital I/Os, plus an additional AES/EBU digital input. And peace of mind comes as standard with a full 12 month parts and labour warranty, and the build quality you'd expect from a world leader in CD-R.

So if you thought you couldn't afford a fully loaded professional CD recorder, get down to your HHB dealer today and check out the new CDR850.

Developed specifically for professional audio use, HHB CD-R media sets the standards for performance, compatibility and archival security.
Pictured left to right: HHB CDR74 Silver, HHB CDR74 Gold and HHB CDR74 Gold P (printable) discs. Also available: HHB CDR Bulk (not pictured).

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http://www.hhb.co.uk

DISTRIBUTION

in brief

Maplin Electronics have launched the Spring/Summer version of their extensive catalogue. For anybody involved in electronics, the catalogue is a primary source of components and projects. They claim to have the largest semiconductor range in the UK and competitive pricing. The new catalogue also comes with £50 worth of vouchers. You can also get the catalogue on a double interactive CD-ROM for just £1.95 (order code CQ03D).

More from: Maplin Electronics

01702 554000

EMIS, the exclusive distributers for Doepfer products, have announced the Doepfer Drehbank MIDI control box. The Drehbank features 64 rotary knobs that can be assigned any MIDI event or string, each one with its own white scribble strip for labelling. It comes with eight factory set-ups, including two ReBirth controller settings, and eight CV inputs for external control. You also get a PC editor program free with the unit. The Doepfer Drehbank costs £325.

More from: EMIS

0117 956 1855

Looking to warm up your vocal recordings? Check out the new DN422M dual-channel EQ/mic pre-amp from Klark-Teknik (£1,174). The 1U rack provides two channels of 4-band parametric EQ, dual variable high-pass filters, dual XL4 mic pre-amps, and electronically-balanced I/O. The recently re-named Klark-Teknik Group encompasses the Klark-Teknik, DDA and MIDAS brands and their products.

More from: Klark-Teknik

Tel: 01562 741515

Sony make it real

New reverb unit recreates the sound of actual acoustic spaces using advanced DSP techniques

Sony have unveiled the prototype of their new DRE-S777 sampling reverb processor. Aimed at recording studios, broadcasters, film and video post production facilities, the DRE-S777 recreates the natural reverberation of live halls and other environments in real-time by using sampled data collected from actual acoustic spaces.

Sony engineers have been busy sampling real spaces with signal source and microphone arrays that the DRE-S777 translates into a reverb algorithm using advanced DSP techniques. In this way, it differs from ordinary reverb processors that attempt to simulate spaces using artificially created reflections and delays. By using four microphones to capture positional information in each sampled space, Sony can recreate 4-channel surround effects from a single source.

Initially, the DRE-S777 will ship with several room programs, and Sony engineers will continue to expand the available programs by sampling other rooms and reverberant spaces. It can be expanded with optional A/D and D/A converters and a DSP upgrade that supports the surround sound mode and 96kHz operation. It is expected to be available by August this year.

Features: DRE-S777

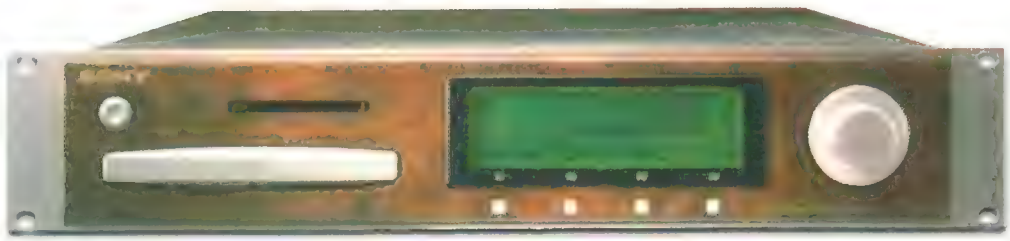
- Real-time processing
- Uses algorithms derived from sampled reverberant spaces
- Surround sound DSP upgrade option

Price: TBA

More from: Sony Broadcast and Professional

Tel: 01932 816000l

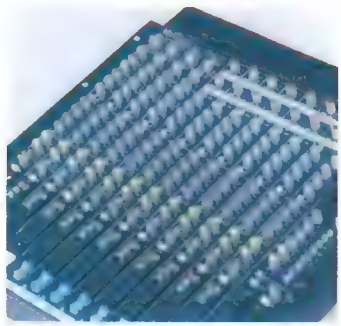
Web: pro.sony-europe.com



Mix wizardry afoot

Allen & Heath have added to their MixWizard series with the launch of the WZ20S. It has four mic/line inputs, with six auxiliaries and a 4-band EQ (two bands with frequency sweep). There are eight stereo inputs, each with 4-band EQ and six aux sends. The stereo channels have dual A and B inputs with phono and TRS balanced jacks respectively, allowing two stereo sources to be permanently connected.

There are two assignable stereo mix busses, Mix1 and Mix2, each with inserts, metering and balanced XLR outputs. Mix1 can be set up as a subgroup feeding Mix2. Mix2 includes a second stereo and mono sum out.



In keeping with the rest of the MixWizard range, WZ20S has Minimum Signal Path architecture, and the QCC connector system allows easy setup in desk or rack format. Circuit boards are vertically-mounted.

There are a whole host of options for WZ20S owners, including RIAA preamps for record decks, aux pre/post and mono/stereo links, plus the Sys-Link expansion system, making the console a source of extra inputs for most other Allen & Heath consoles.

Price: £1,027

More from: Allen & Heath

Tel: 01326 372070h

Web: www.allen-heath.com

The Fostex three

One of the highlights of the Frankfurt Pro Light & Sound show was the trio of new digital recording products from Fostex: the VR800 digital multitrack recorder, the VM200 digital recording mixing console, and the VC-8 ADAT analogue converter.

The VR800 can record eight simultaneous tracks of audio to a variety of media, including hard dives, SyQuest drives and Jazz drives. It has a variety of editing and recording tools, including copy/cut/move/paste audio editing, and virtual tracks for multiple takes.

The VM200 seems to complement the VR800 very nicely, with 20 inputs on mixdown and an 8-buss ADAT digital output. It features 60mm motorised faders, 32-bit processing, a large LCD display, 100 scene memories, 4-band parametric EQ on all 16 input channels, two DSP effects processors, and a wordclock I/O for spot-on digital audio sync.

The VC-8 ADAT analogue converter is just the thing for anybody stuck with an ADAT I/O and no way of using it. It has eight channels of A-D conversion and eight channels of D-A conversion, plus selectable clock frequencies. The VR800 is due for release in April, with the VM200 following in May.

Prices: TBA

More from: SCV London

Tel: 0171 923 1892

Web: www.scvlondon.co.uk

The VM200 digital recording mixing console

'440 praise the Chord

Apollo 440, producers, musicians and remixers *par excellence*, have a couple of new additions in their north London studio, in the form of a Chord 1032 amplifier and a set of Dynaudio M3 studio monitors. As well as their own material, Apollo 440 credits include a remix of James' 'Sit Down' and the theme to last year's World Cup 'Rendezvous '98'. The group's Howard Gray explains the choice of amplifier: "After one listen we realised anything else would be a compromise. The nature of the sound doesn't alter with changes in volume. They're great to work with." Check out Apollo 440 live later in the year.

Apollo 440: they rule

in brief

Et Cetera distribution have officially been appointed the exclusive UK distributors of the Maxi ISIS card. Amongst other things, the ISIS PCI card features full duplex 8-in, 4-out recording, onboard synth/sampler , and an external 20-bit convertor break-out box. ISIS retails at £249.

More from: Et Cetera Distribution

01706 228 039

KGM Sound Control have recently supplied and installed a complete ProTools|24 Mix system in the refurbished 02 Studios in Stockton. The complex, originally known as Oblivion, consulted KGM Sound Control at its custom-built demo facility in Wakefield and opted to redesign their studio, making it more attractive to London-based record companies. New equipment also includes TLA pre-amps, Mackie HUI, and many plug-ins for the ProTools system. The studio's main control room and two live areas have been renovated.

More from: KGM Sound Control

01924 371766

Alesis have dropped the price of the 20-bit M20 ADAT recorder. The UK price of the M20 has come down from over £5,000 to just £3,999. Look out for our full review of the M20 next month.

More from: Sound Technology

Tel: 01462 480000

in brief

London's Strongroom studios have got together with Dreamhire to provide an even bigger selection of gear than before. Strongroom clients can now have their pick of racks of vintage and rare gear for use on their sessions. The first such 'Goldrack' is already in use, and includes a Tubetech PE1C EQ, a TC Electronics 2240 pre-amp/parametric EQ, a dbx 160 compressor/limiter, and a rare Ursa Major Space Station multi-tap delay/reverb processor. Another two racks are currently being built.

More from: Strongroom

Tel: 0171 426 5100

Producer Naughty G with the Gold Rack

This year's Technical Grammy award was awarded to Georg Neumann GmbH, originator of the first mass-produced condenser microphones, as well as Neumann's omnipresent other models. Previous winners of the illustrious award include Ray Dolby and Rupert Neve.

DACS are celebrating ten years of the MIDI Patchbay. Back in 1989, rather than build an expensive programmable patchbay, DACS went for simplicity and built a mechanical one that needs only mono jack patchcords for patching of your MIDI set-up. At £141, it's still selling well today.

More from: DACS Ltd

Tel: 0191 438 5585

Tascam can copy

Duplicate any master disk, CD-R or CD ROM with Tascam's new 2-deck CD duplicator

navigate the operator through copying, checking, and comparing discs, playback of audio, and selection of duplication speed. You can copy both audio and data CDs at a choice of three speeds: 1x, 2x, and 4x.

Tel: 01923 819630d

Web: www.tascam.com

It's a kind of magix

Create your own soundtracks with Music Maker Professional, a 64-track audio and video arranger

Magix Entertainment have released the professional version of their Music Maker application for Windows and windows NT. Music Maker Professional contains a 64-track audio, video, and graphic project arranger, a digital WAV editing and recording system, and 14 CD-ROMs full of royalty-free music, video and graphics.

The audio and video production side lets you create a soundtrack with drag-and-drop operation, using library audio and your own voice-over and sound recordings. For video material there are many effects and editing features that can be applied to the video and animation library or your own material; all synchronised to your soundtrack.

You can also produce streaming audio and video for your website directly from Music Maker Professional. It supports all popular formats, including RealVideo, RealAudio, NetShow, and QuickTime. An MPEG audio encoder is supplied, and the library has 10 CDs of music and sounds, all in WAV format, and four CDs of video and animation in AVI and BMP formats.

Features: Music Maker Professional

- 64-track audio/video arranger
- Hard disk recording system
- 14 CD-ROM library

Price: £370

More from: MAGIX Entertainment

Web: www.magix.net

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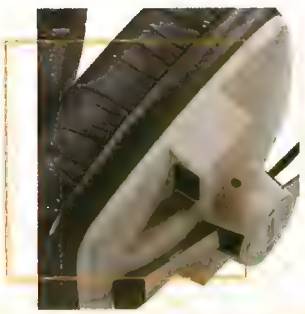

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e-mail: sales@beyerdynamic.co.uk
Burgess Hill, W.Sussex RH15 9TN

beyerdynamic

in brief

You should have all sent in your entries by now for Holsten Pils/Yates's Undiscovered Originals – the band search for 1999. If you haven't, you'll kick yourself when you see what prizes you've missed out on:

- £5,000 of new band gear
- a day in a pro studio recording the winning track
- 200 CDs pressed and distributed amongst the record labels with the endorsement of *The Mix*
- the winning track will appear on the cover CDs of *The Mix*, *Future Music*, *Guitarist*, *Total Guitar* and *Guitar Techniques*

Now we've got the hard part of judging the thousands of hopefuls who sent their demos in, and deciding which of them will make it into the 24 regional heats being held at Yates's Wine Lodges all over the country. Watch this space to see who makes it, and where you can go and cheer them on.

Creamware have announced new pricing for their Pulsar PCI card, and new UK offices. The Pulsar features four DSPs, multi-processing, a 32-channel digital mixer, multi-synthesis, sample players, 20 I/Os and MIDI, 96kHz sample rate and 24-bit resolution support, plus MME and ASIO drivers. The new price is £939. You can contact Creamware on their new office number, via Email (info@creamware.de), or on the Web (www.creamware.de)

More from: Creamware UK

Tel: 01667 451123

Crookwood, the company behind the Paintpot Pre-amp, Mastering Brick consoles, and soon, a new 6-channel compressor, have registered on the internet at www.crookwood.com. They are also on the look-out for companies interested in becoming new dealers to represent their products. If you're interested, contact Crookwood.

More from: Crookwood

01628 528026

Plug-ins 'R' us

Arboretum promise unforseen levels of control over vocal sounds with their new processor

Arboretum have announced two new audio applications, one for the MacOS and one for Harmony (MacOS) is a new formant-based pitch processor with a unique graphic interface for controlling pitch and harmony. It can fix pitches, create new vocal lines, and allow the user to arrange complex individual parts with a click of the mouse!

Arboretum say that their formant-based pitch shifting technology, "provides new levels of realism and unprecedented control over processed vocal sound." The automatic pitch correction snaps tracks into key, and generates new harmony parts.

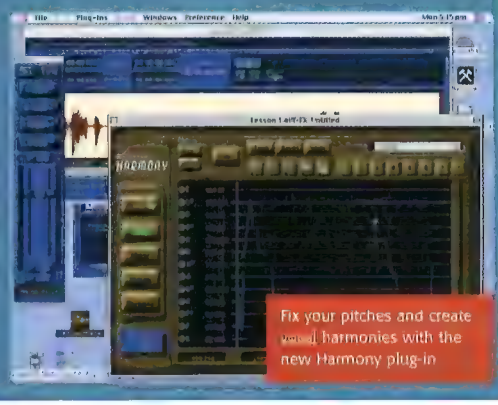
The new PC application, Restoration-NR, employs 32-bit floating point calculations to generate more than 4,000 bands of gated EQ, offering adaptive broadband noise reduction with protection for higher frequencies. It is intended for use in audio forensics, music restoration, archiving, and field recordings. It requires a Pentium 166MHz or faster, a Windows soundcard, and a DirectX compatible audio editor.

Price: Harmony £382, Restoration-NR £323

More from: Unity Audio

Tel: 01440 785843o

Web: www.unityaudio.co.uk



Fix your pitches and create vocal harmonies with the new Harmony plug-in

Cubase steps up

Steinberg announce new versions of their Cubase VST software for Mac and PC

Software supremos Steinberg made several important announcements at this year's Music Messe in Frankfurt. First, the new version 3.7 Cubase VST for Windows was announced, incorporating the new VST 2.0 plug-in interface. This development allows software synthesizers in plug-in format to be integrated into the VST architecture. In addition, the Mixer/EQ section includes an extension with five new real-time processing modules: Compressor, Limiter, AutoGate, Auto Limit, and Soft Clip. Version 3.7 now supports the Mixman TRK format, with full support for the Pentium III processor. The upgrade is free for download from the Steinberg website, or users can order the CD for a small charge.

Cubase VST 4.1 for Macintosh was also shown off at the Music Messe, with support for the Yamaha DSP Factory and the five new processing modules as in the Windows version (see above). ProTools users will be pleased to hear that version 4.1 features new TDM support. Again, the 4.1 upgrade is free for download, or you can order the CD for a small fee.

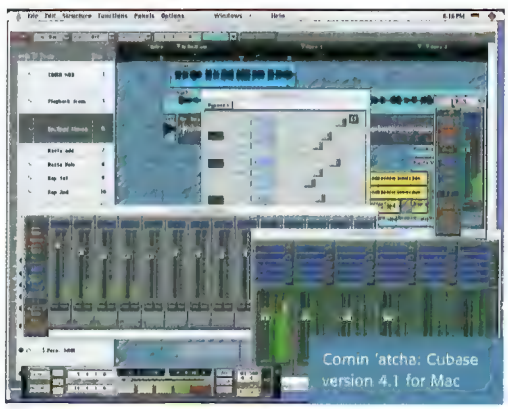
Among the other highlights at the Steinberg stand were the Rocket Powered VST (see separate story on page 12), Mastering Edition (a collection of six plug-ins), and a Pentium III ready version of Clean!

Prices: £TBA

More from: Arbiter Pro Audio

Tel: 0181 202 1199

Web: www.steinberg-us.com



Comin 'atcha: Cubase version 4.1 for Mac

If you are journeying into sound...

...you can now afford to Travel First Class

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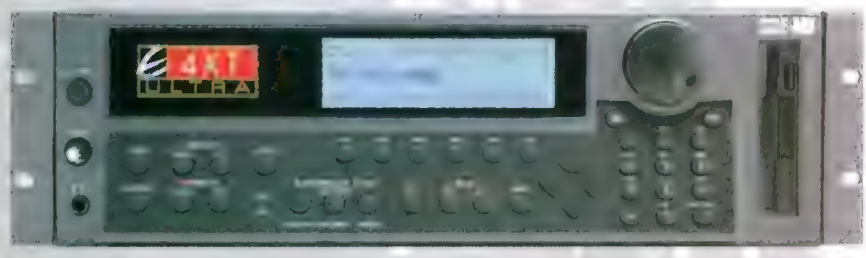

EOS is as flexible as you want, with three models that can each be expanded to the maximum specification. Choose your starting level and move on up when you're ready. And flexibility extends to existing E-6400, E-Synth, E4X and E4XT, too. All can be fully (and cost-effectively) upgraded to the full Ultra specification.

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in brief

Loudspeaker manufacturers Avocet now supply directly to end users and are offering two special deals on systems. The 300F package (£999) includes a pair of Integrity 300W speakers, stands, cables, and a Matrix UKP1000 amplifier. The Baby Bass package (£1,140) contains 600W Integrity speakers, cables, an Integrity active crossover, and a Matrix amplifier

More from: Avocet

Tel: 01934 834887

The Audio Engineering Society recently presented a paper to the White House, entitled 'Networking Audio and Music Using Internet2 and Next-Generation Internet capabilities'. NGI is a new initiative sponsored by the US Government to connect universities and National Labs to high-speed networks, in partnership with the university-based Internet2 project.

More from: www.aes.org

Cedar Audio have announced their new CEDAR for Windows system, complete with the new Debuzz version 2 process. Debuzz can restore up to 16 channels of audio in real-time and Cedar claim it as the world's first dedicated module deigned to fix the specific audio problems found in film and television production. Also, Cedar have launched an upgraded version of their DCX declicker and DHX dehisser units.

More from: Cedar Audio

Tel: 01223 414117

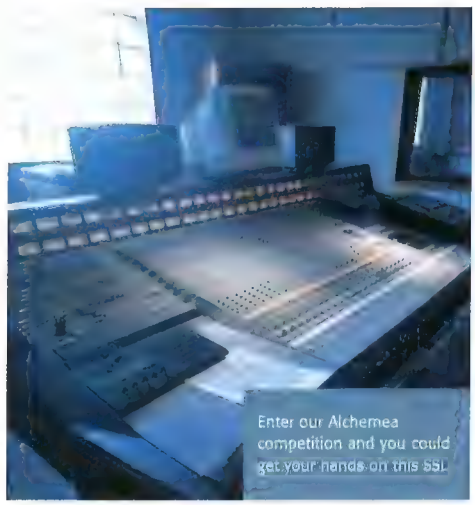
Zoom and Exclusive Distribution have announced the launch of their new rhythm machine. Hot on the heels of the RhythmTrak 234 comes little brother RhythmTrak 123. It offers 297 preset patterns that can be combined to create original songs. Alternatively, you can create completely new patterns in the 99-pattern user memory using up to two drum kits and one bass program simultaneously.

More from: Et Cetera Distribution

Tel: 01706 228039

education news

Colleges, universities and private schools are getting ready for the annual music intake...



If you entered last issue's fabulous competition to win £7,000-worth of training from Alchemea College of Audio Engineering in London, you'll be pleased to hear the college is building a new, 5th studio to house their SSL G Series Console. If you haven't entered, you've still got time – just. The closing date for entries is 30 April, so check page 90 of last month's issue for details and get scribbling. Now!

More from: 0171 359 3986

The School of Popular Music and Technology at Edinburgh's Jewel and Esk Valley College has announced an expansion of its facilities. The School, which offers courses in Modern Musicianship, Dance Music, Film Music, Multimedia and Studio Engineering now has five studios, 11 fully-equipped band practice rooms, a new performance area and two MIDI classrooms. The School of Popular Music and Technology is an approved training centre for both Steinberg and Digidesign.

More from: 0131 660 1010

Media Production Facilities in Harrow, Middlesex, is offering a new series of short introductory courses which will combine lectures from audio industry pros with hands-on experience. Confirmed lecturers include Studer UK MD David Pope, Richard Salter (ex EMI, SSL, Sony, Focusrite) and engineer Tom Leader.

More from: 0171 737 7152

The Nottingham Foundation for Music and Media (The Foundation) has been appointed as the UK's first accredited Emagic training centre. The Foundation offers courses ranging from Logic Sequencing to HNC in Music Technology, and this year will also see the introduction of The Foundation Summer School offering various recording, production and music technology courses.

More from: 0115 947 0044. See the next page if you'd like to win a free recording session at The Foundation

Point Blank studio in Greenwich, London has received formal accreditation from the LOCN (London Open College Network) for its Music Technology and DJ courses. Point Blank offers one and two-day or six-week part-time courses, and is currently developing a new Dance Production course.

More from: 0181 293 4909

Interested in the live side of the music biz? Leeds College of Music is offering two short summer schools for 1999 aimed at bands, technicians, promoters, managers and DJs. The DJ Technology school will run from 26-30 July, and the Sound Reinforcement summer school from August 2-6.

More from: 0113 222 3400

SAE Technology College in Islington, London is undertaking yet *another* expansion programme. The plans include a new multimedia facility, a 5.1 surround studio based around Mackie's D8b (digital 8•bus) console, a second 8-track facility based around Yamaha's 02R console, and improvements to the existing Neve and SSL studios.

More from: 0171 609 2653

The Stables recording studio in Sleaford, Lincolnshire, is now running weekend workshops and short courses to give a taste of what goes on in a 48-track residential studio.

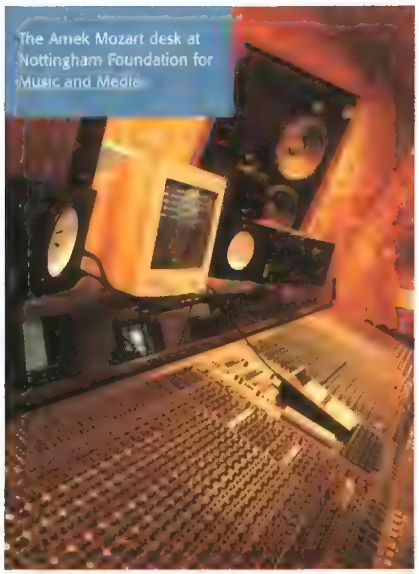
More from: 01529 488370

The Recording Workshop in London has upgraded to 32-track. Now in its 10th year, the Workshop offers courses in Cubsde VST, synth programming, sampling, advanced production and multi-tracking.

More from: 0800 9807454

You can still make it to the Music Technology taster day on 24 April at Coventry Technical College. The college runs a range of sound engineering and music production courses in conjunction with Glasshouse Productions, and the open day will give you a chance to check out the equipment and meet the staff.

More from: 01203 223892


The Amek Mozart desk at Nottingham Foundation for Music and Media

Congratulations go out to IMW (Islington Music Workshop) graduates who have secured jobs at some of the UK's top studios. Jason Timmons and Andrew Nicholls are working at Whitfield St Studios, while Paul Middleton has got his hands on the Euphonix desk at Hear No Evil. Soho's post-production facility Grand Central is now enjoying the services of Tim West, while Jazzie B's Soul to Soul studio has taken on David Newell.

More from: 0171 608 0231

Last year's students at Gateway School of Recording graduated on Friday 19 March at Kingston University's annual ceremony, held at the Royal Albert Hall in London. Recent graduates have gone on to gain employment at Eden studios, Westpoint studios, Mute Records and Westminister University. Gateway also re-launched its short course programme in February.

More from: 0181 549 0014

Music for the Media student Dave Clynick has fought off hot competition to win a music-writing job at computer games company Rare UK. "I am absolutely over the moon" says Dave, who until last month was a dental technician in Leicester. Music for the Media is a £499 correspondence course for media composers, written and run by well-known TV and film composer Guy Michelmore.

More from Sfida Creative Learning: 0181 749 2828

Red Tape Studios in Sheffield have been kitting themselves out in preparation for their summer courses. All five main studios have new 20-bit ADATs, as well as a range of new synths, processors, software and internet access. Manager Chris Adams commented "We aim to offer a unique training experience which reflects the creativity and innovation underpinning the music industry".

More from: 0114 276 1151

Competition!

Win a recording session in the state-of-the-art digital studio at Nottingham Foundation

Foundation are inviting you to submit best track to be scrutinised by their in-house A&R experts. From these, a winner will

professional format. In addition, all entries will be automatically entered into the soo announced M-Corporation competition to win

Please send your tapes containing one song only (decisions, decisions!) to: Foundation/ M-Corp Competition, *The Mix*, Future Publishing, 30 Monmouth Street, Bath BA1 2BW, to arrive no later than 14th June 1995

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open mic

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sound bites

Don't just sit there reading and fuming. Write to *Open Mic* and join in our furious debates on the hottest topics...

Net gain
Will MP3 destroy the record industry, or does it mean the democratisation of music distribution for producers everywhere?

ADAT back
ADATs had their best year ever in 1998, so what has happened to the tapeless revolution? Do you still love your ADAT, or are you a convert to hard-disk-based recording?

Soft option
Have you ditched all your studio hardware for a PC-based system? Are you about to? Is the whole world going soft? Let us know.

Write to us: Open Mic, *The Mix*, Future Publishing, 30 Monmouth St, Bath BA1 2BW

Or email us: themix@futurenet.co.uk

Disser-tare-shun

Please could you help me with my dissertation? I am currently in the final year of a B.A.Hons Degree in Music Technology at Barnsley College in Yorkshire. For my research I am studying how technological advances have influenced composers and how these dictate the music we listen to today. I would really appreciate some feedback from either you or any of your readers on this matter.

Dave Wood Email: axebarnsley@hotmail.com

Senior Editor Chris Kempster replies:
This is an interesting subject, and one that's not restricted to the last 20 years, either. Historically, advances in instrument technology have always affected music, whether it's expanding the tonal palette of the orchestra with entirely new instruments (the saxophone, for example was only invented in 1846), or improvements to an existing instrument allowing more demanding parts to be written for it.

I suspect, however, that you're referring to more recent 'technological advances', such as the synth, sampler and computer-based music, right? Well, it's been well-documented how acid house and its successive incarnations were forged out of the use and mis-use of synths and drum machines, and there's even cases where a single electronic instrument has made possible a new genre of music – most notably, the use of the sampler in jungle and drum'n'bass.

In reality, technology is so fundamental to the creative process of musicians today, that to talk of it as an 'influence' is missing the point. Just like so many other areas of our lives, machines in music are no longer optional, they're essential. Going into the 21st Century, the forecast is for more technology - much, much more...

Pieces of eight

I use pirate music software. There, I said it. However, I also *buy* music software and one of my purchases came about as a direct result of using pirate software. My early days of computer music were spent on the trusty Atari and, like most people interested in music, I had a dodgy copy of Cubase V3. So, when I transferred across to a PC, I was so familiar with Cubase that it was the natural choice, so I went out and bought it without even attempting to acquire a pirate version.

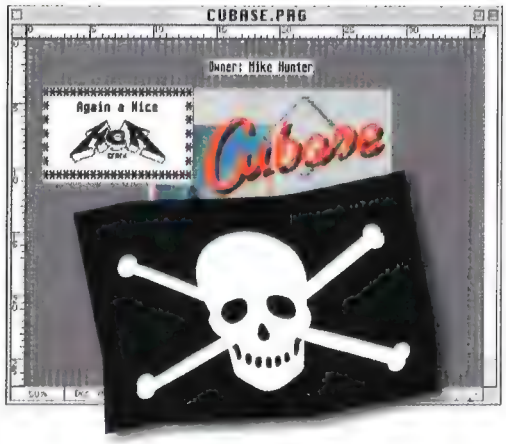
Technological advances over the past 150 years have changed the face of music; more recent advances have spawned entire genres

I am sure that Steinberg (and other manufacturers like them) owe much of their present success and popularity to such practices, and ultimately benefit in the long run. Some may say that using pirate software as a testing ground is no excuse, as almost all software comes in a demo version these days. But if the 'save' function is disabled then I rarely use it for longer than 10 minutes, which is nowhere near long enough for me to want to pay 250 smackers for the real thing (which is what I ended up paying Steinberg and their associates for VST).

So, while I have to accept that pirated software is wrong in the eyes of the law, I think that its existence isn't always harmful to the software developers/manufacturers. In fact, it could be considered a useful marketing tool – for example, just take a look at how Quake got started by giving away the game over the net (albeit in reduced form) to establish a customer base.

Anyway, got to go now. I can hear Re-Birth a callin' me... Ooops!

Cletus, email supplied



Senior Editor Chris Kempster replies:
Of course, we're never going to condone using pirate software, but your suggestion that it sometimes functions a bit like shareware (where users use a program for a nominal fee, get to know and like it, then buy the full program when it's available commercially) may have an element of truth in it. On the other hand, I'm sure the likes of Steinberg and Emagic would argue that their demos are sufficient for users to make a decision whether this is the right software for them or not. Whatever the case, pirate software is still illegal, so we've passed your details onto the authorities...

Vocal delivery

I have just bought your magazine for the very first time, having had it recommended to me by a trusted friend. He had informed me that your samples are excellent, and are well worth the cover price. Indeed, after listening to some of the discs he had in his collection, I had to agree.

I have been looking for some vocals for some time, so I was very excited when I saw your latest CD offering contained female vocals. I put it on my computer as soon as I got home. Unfortunately, I didn't think it was up to your normal high standard that I had been led to expect.

Whilst the voices of the singers were excellent, I thought that the way they were singing was a little self-indulgent and completley out of context. Extended phrases should have given way to a more punchy feel. I got the feeling that they were trying to show off their voices rather than have the end user in mind.

Apart from that, your other samples seem to be great. Is it possible to buy the backdated CDs, as I haven't got any?

Stephen Freeman

Senior Editor Chris Kempster replies:
Basically, when it comes to our cover-mounted samples, our policy is that you tell us what you want, and we go out and get 'em. Vocal samples and drum loops seem to be the most popular, but it's also nice to get samples that might not be readily available normally, such as our Celebrity Synth collection last month (where celebrated synthists like Gary Numan, K-klass and James Hardway gave us sounds from their own collections). Although we might not always cater to everyone's tastes, the great thing is we get another chance next month to give you what you want. And the next month, and the next...

Regarding backissues, these sell out very quickly because of the samples on CD, but you can try our Backissues Hotline on 01458 271122. To make sure you do get the samples every month, take out a subscription and save yourself some money and hassle!

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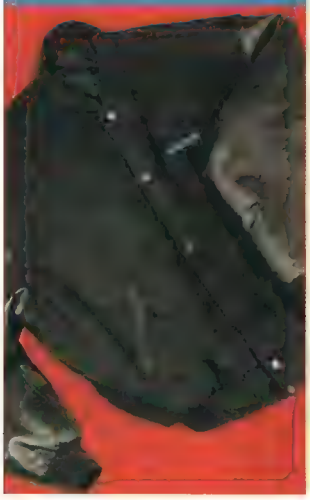


letter of the month

School dinaz

As a music teacher myself (at Stretford High School in Manchester) I was most interested to read Martin Hughes' letter in issue 59 of *The Mix*. He makes some valid points, but I believe that he is being a little hard on schools. These days, music technology is making an impact on the classroom, indeed the National Curriculum for music outlines a number of key areas in which technology should be used. These range from composing using a sequencer to simply recording a performance using a tape recorder. Of course, the degree to which technology is used will depend on the individual teacher. Many teachers come from classical backgrounds, and the level of technology training on PGCE courses is pitiful, which does not help matters. However, the vast majority of them recognise the value of technology and are doing their best to learn about it and implement it into their schemes of work.

To take Martin's second point, there is, and has been for some years, a problem with the crossover between courses. Even moving from music GCSE to A level is fraught with problems as, while GCSE has moved with the times and become a much more practical course, A level has remained to a large extent a glorified music history course with some composition and aural training thrown in. This is slowly being rectified but is still not ideal. I guess that universities are not taking A level music tech students because of similar problems. The tech A level is centred around technology and popular culture and is an excellent course in its own right, but does it prepare the student for harmonising Bach chorales or performing a Schenker analysis on a Beethoven score? No, it doesn't, and nor should it. If Martin is keen to continue his education in this field, then he should be looking at the sort of courses advertised in your classified section; courses geared up to what he wants to do, which have the emphasis on practical experience. It may be impressive to have the letters BA after your name (not!) but it's a high price to pay for having to sit through lectures on Baroque stylistic techniques every Monday morning..

P.S. You're welcome to come into my department any time to see how we use technology, but only if you're willing to brave school dinners.

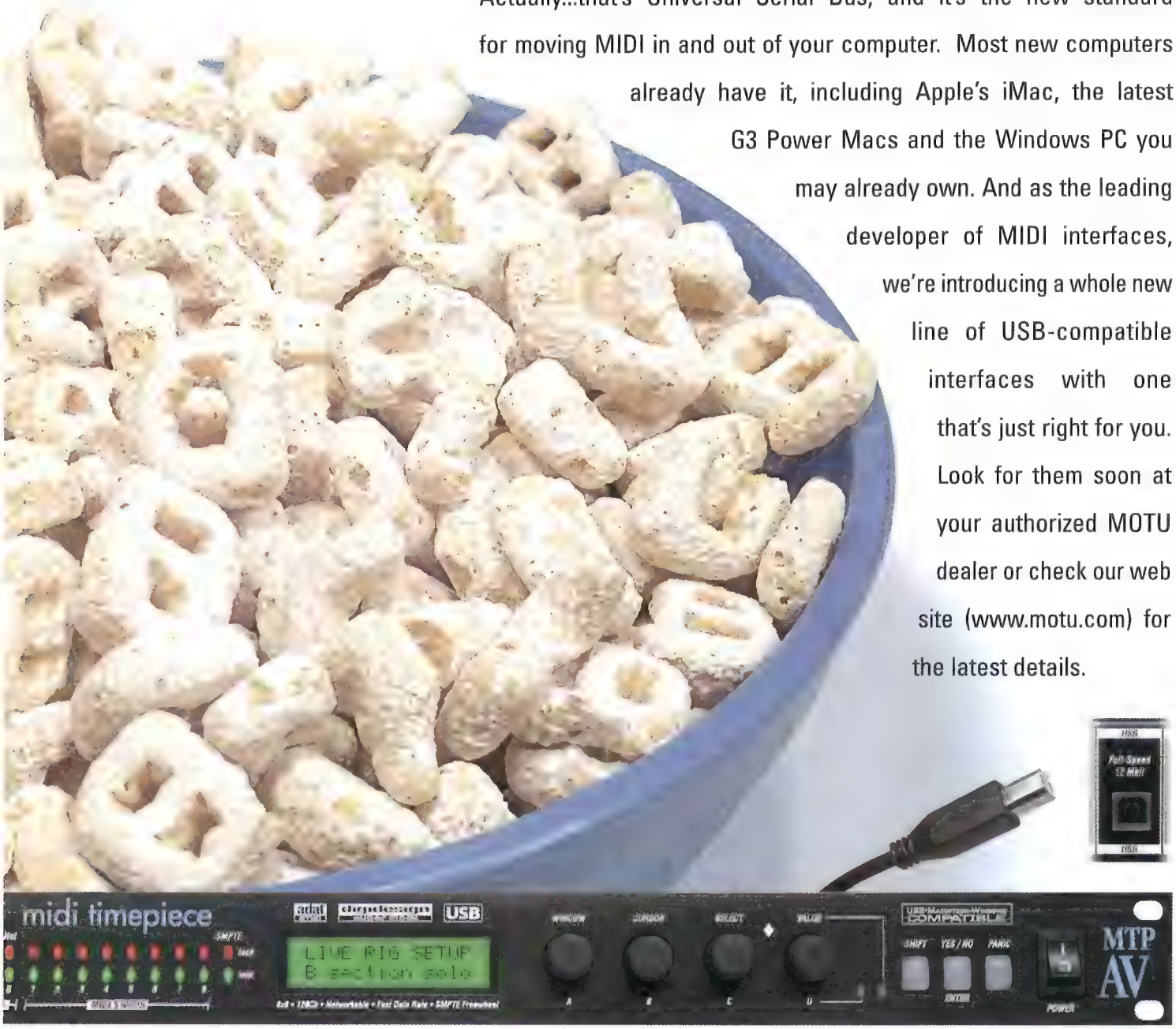
Carl Eden

Senior Editor Chris Kempster replies:
It seems that music technology is one of the most active (and controversial) areas of education today. While it appears there are problems involved, the fact that so many people are getting involved in it has to be good thing. As for 'braving school dinners', I can think of nothing worse than semolina and custard for destroying anybody's musical creativity!

What's Universal Cereal?

And why's it on a bus?

Actually...that's Universal Serial Bus, and it's the new standard for moving MIDI in and out of your computer. Most new computers already have it, including Apple's iMac, the latest G3 Power Macs and the Windows PC you may already own. And as the leading developer of MIDI interfaces, we're introducing a whole new line of USB-compatible interfaces with one that's just right for you. Look for them soon at your authorized MOTU dealer or check our web site (www.motu.com) for the latest details.



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reviews

This month: we get hands-on with Peavey's hardware controller for Cakewalk, design our own plug-ins with DUY's DSPider, and take in the latest in reverb from TC Electronic...

Who tests the gear

Our team of equipment reviewers are all audio industry professionals, experts in their chosen fields – engineers, producers, musicians, software specialists and audio journalists. This means that you can trust the opinions expressed in our reviews.

How the gear is tested

Wherever possible, the gear we test is used in actual sessions. Indeed, some of the biggest-selling records this year will have acted as testbeds for our reviewers. We believe that to truly evaluate kit properly, it needs to be tested in studio conditions – not a dark room!

Impartiality

Reviews in **THE MiX** are in no way biased towards certain manufacturers. We will deliver an impartial verdict on a product whether or not a manufacturer advertises in this magazine. Our first duty is to you, the reader, and our goal is to give you the best possible advice on buying equipment. We will not hesitate in exposing sub-standard equipment.

THE MiX EDITOR'S CHOICE

Products that are judged to be outstanding by our reviewers are awarded the 'Editor's Choice' tag. In a standard review, this means that the product offers exceptional performance for the price it retails for. In group tests, there may be two awards – 'Best Performance' and 'Best Value'. The 'Best Performance' award will go to the product that offers the best performance irrespective of price, while the 'Best Value' award will go to the product that offers the best price/performance ratio.

Peavey StudioMix

Cakewalk control surface and software for PC

Price £799

For Motorised faders ⊙ All controls are programmable ⊙ Interfaces extremely well with Cakewalk

Against Inevitably limited functionality ⊙ Channel design could be more user-friendly

Verdict Superb for hands-on mixing with a small amount of gear, but may be limiting for larger studios

What's happened to recording, eh? Are you old enough to remember proper mixers with faders and knobs? They're still there in software sequencers, but they're virtual now, and you control them with mouse clicks and drags rather than with your fingers. Wouldn't it be nice to control your favourite sequencer with a real, live hardware mixer? If you think it would and you're a Cakewalk user, then it's your birthday.

Overview

StudioMix is a combined production from Cakewalk and Peavey. It's an 8-channel mixer with motorised faders – yeah! – plus a range of knobs and buttons designed to enable you to control Cakewalk Pro Audio 8 from a hardware interface, rather than a software one. It can do a bit of mixing on the side, too.

What we got was a tabletop mixing unit with nine channels. The first eight control eight MIDI or audio tracks, and the ninth controls the master section of the software mixer. Each channel has a 60mm throw fader, two rotary knobs and a button. All of these can be programmed to perform a range of functions, which we'll get onto in a minute. To the right of the faders is a set of five buttons called Button Bindings which, again, can be programmed to trigger various events in the software.

To the right of these is a jog/shuttle control consisting of two concentric dials. The inner one scrolls or jogs backwards and forwards through the song as you turn it. The outer one accelerates or decelerates through the song. This one's on a centre return so when you release it, scrolling stops. You can adjust the jog resolution from fine to coarse and select increments of frame, beat or measure.

Above these are a set of transport controls plus a record button, and above these are the audio mixer controls. There are gain controls for mic in, line in, mix out and monitor. There's also a button to select either the tape or the soundcard as the source for the monitor signal.

Peek behind on the back panel and you'll see the StudioMix's connections. They include mic (XLR), line and soundcard in, plus tape in and out, a monitor and a headphone socket. There are also MIDI in, out and thru sockets.

Mini mixer

Now, let's put it all together and see how it works. First up is the little audio mixer section. The various ins and outs can be connected to a range of devices. Obviously, the names suggest which devices they ought to be connected to, although you could substitute a DAT player for a cassette deck, for example (but via the analogue connections, of course).

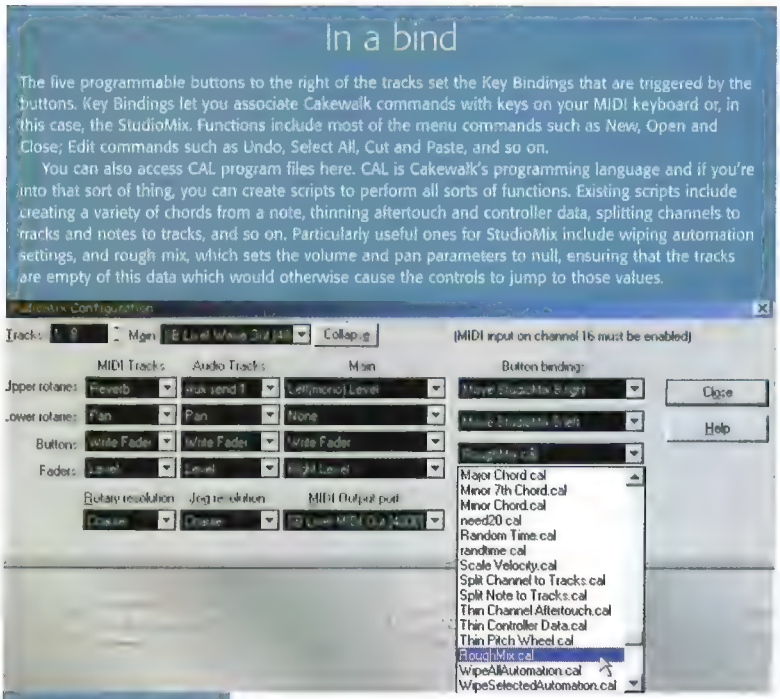
A typical and popular routing is likely to be to connect the soundcard to the mixer as suggested. You could also route a synth to the line in sockets. The monitor outputs would typically go to monitor speakers. Essentially, the mixer section lets you connect various audio sources, adjust their input level, send them to the soundcard for recording to disk and listen to the soundcard's output using the monitor control.

This is useful, but if you have many sound sources you'll soon run out of connections. However, another option would be to run all your sounds through a traditional line mixer and connect the mixer's output to the StudioMix.

The tape sockets let you record from the soundcard's output, although it's doubtful that many users would now consider tape a suitable medium for recording – at least not before their music had been burned to CD. Could the StudioMix been ⊙⊙

words **Ian Waugh** images **Gavin Roberts**

StudioMix
MIDI THRU
MIDI OUT
MIDI IN
MIC IN
LINE IN
SOUND CARD
TAPE OUT
MONITOR OUT
MIC GAIN
LINE GAIN
MIX OUT
MONITOR
INTERNAL MIC
than a mouse



The RoughMix CAL resets the volume and pan parameters to NULL, leaving a blank slate for you to mix on

features

- 9 modules with 60mm motorised faders, button and two rotary knobs
- Assignable faders, knobs and buttons
- 5 programmable buttons
- Jog/Shuttle control
- Transport controls
- Audio mixer:
  - Mic in
  - Line in
  - Mix out
  - Monitor
  - Tape/monitor button
- Back panel:
  - Headphone out
  - Monitor out
  - Tape in
  - Tape out
  - Soundcard in
  - Soundcard out
  - Line input
  - Mic input
  - MIDI in
  - MIDI out
  - MIDI thru
- Software:
  - Configuration panel to assign controls

given a S/PDIF? An option for Mk II, perhaps.

The other sections of the StudioMix are controlled via MIDI and its MIDI in and out must be connected to a MIDI interface in the PC. The MIDI thru can be used to route incoming data to a sound module, for example. The setup can get a bit fiddly, certainly if you have more than one module, in which case a multi-port MIDI interface is certainly recommended. Use of the StudioMix excludes the use of MIDI Channel 16 for musical purposes so if your channels are already full to bursting, it's definitely time to look at a second or multi-port interface.

Right, we've plugged it in. The StudioMix is enabled by a check box in Cakewalk's Global Option dialog. However, in order for it to work you must have Cakewalk's Console open. It will work with the Console minimised but if it's not open, StudioMix is inactive.

The next step is to configure it, and this is done from a configuration window opened from the Console itself. Here you assign each of the controls to a particular function. It uses a series of drop-down menus and it's very easy to do.

Configuration

The first eight channels are identical and the controls in each have the same assignments, although they differ depending on whether the track is a MIDI track or an audio track. For MIDI tracks, the faders can control level, pan, chorus or reverb.

The upper and lower rotaries can be assigned to exactly the same parameters - only the rotaries aren't motorised and don't twiddle on their own. The button can be set to mute, solo, arm, or write fader. Arm arms a track for recording, while write fader enables it for automation recording.

For audio tracks, the options are level, pan and one of the aux sends. The number of aux sends available varies according to the number you have selected in the Audio Options dialog. If you're really adventurous you could try 16, but a more sensible number would be two or four. The buttons can also be set to mute, solo, arm, or write fader, or they can enable the track's send to an aux bus.

The main track's fader and two rotaries can be set to left (mono) level or right level, aux send and return or pan send and return. The button can be set to write fader, and to toggle between aux pre and post sends.

The easiest way to control both the left and right outputs simultaneously is to group the two faders in Cakewalk. You could assign them to the two rotaries and juggle them that way. Not so much fun, though.

But what you can't easily do is independently control more than one audio output, say if you have two audio cards in your PC or if you are using the multiple audio channels of the Yamaha DSP Factory, for example. You can step the channel that the main fader controls right or left to control additional audio outs. You can also select the output from the main drop-down menu in the configuration panel, but you can't control two outputs simultaneously and independently.

You may think that the eight other faders limit you to working with just eight tracks. Well, you can only work with eight consecutive tracks at a time, but you *can* step the controls left and right to control tracks 1 to 8 or 9 to 16, for example. You can step them on by any increment so you can set them to any range of eight – 2 to 9, 23 to 30, and so on.

Keep on tracking

So, let's give it a whirl. As the StudioMix can only work with eight consecutive tracks, it's helpful if you can organise your parts so they can be recorded and arranged that way. We'll set the track buttons to arm with the rotaries controlling pan and reverb (aux send for the audio tracks) and off we go.

It's fairly easy to lay down a few tracks this way using StudioMix to adjust parameters and set up a rough balance for playback while recording other parts. If you want to record more than eight tracks you have to step the control on a bit, which you can do using the Button Bindings (see *In a Bind* section above). Okay, it's a nuisance but, hey, how much does a 48-track motorised desk cost?

The parts are in, so on to the fun bit: the mixing. You now have to change the button function to write fader. You might also want to solo and mute channels. Hmm. There's only one button per track, so you

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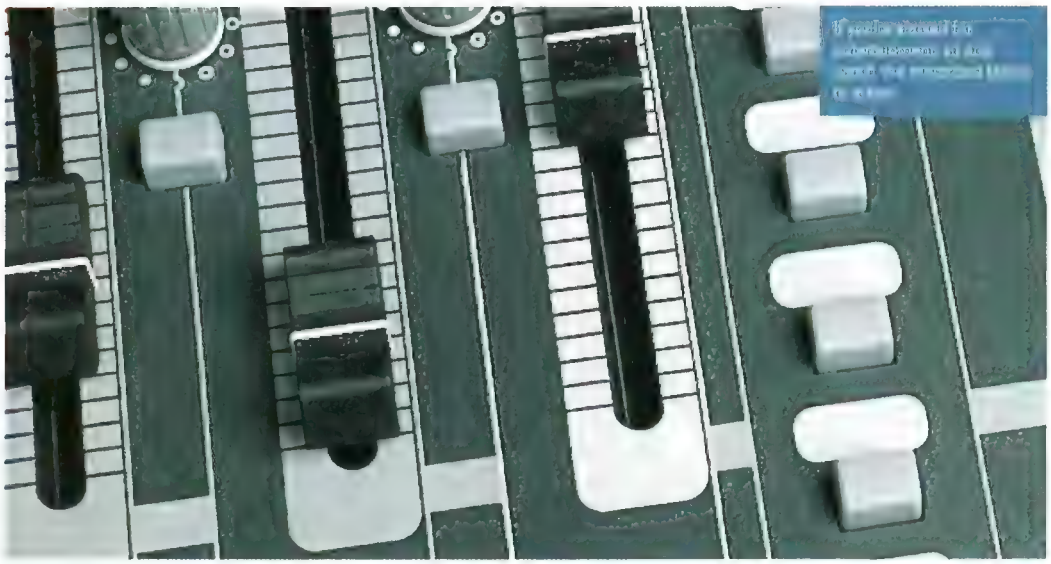
system requirements

CPU
Pentium 133MHz minimum, 200MHz recommended

Operating systems
Windows 95
Windows 98
NT 4.0

RAM
16Mb RAM minimum, 32Mb recommended

Soundcard
Windows-compatible 16-bit soundcard with MIDI interface



Resolutions: the coarse and the fine

the parameter by a amount. You can set the resolution to coarse, medium or fine, and each setting changes the parameter by a

by a value of 1. The coarse setting tends to change the value by 8, but not always. increments at lower settings and larger increments at higher settings. Medium is a good setting to go with, and you can always drop down to fine if you need to do fine tuning (ha!).

Here's a nice touch: MIDI faders show volume numbers in the range 0 to 127. Audio faders show values in dB.

can't access all these functions at once.

Depending on how much of a fiddler you are, you'll find you may need to reassign the buttons and the rotaries a few times during the course of the mix, which isn't particularly conducive to creative mixing.

And, of course, you'll still have to interact with the software if you want to move parts around, edit them, apply quantisation and so on. The Button Bindings can help here, however, by opening functions and menus which you commonly use.

Yes, it's a bit of a buzz seeing the faders move during playback and it's very tempting to tweak the things just for the effect! The faders have a fairly smooth throw. Very sensitive fingers may detect just a wee bit of resistance, depending on how quickly you move the fader and where it seems to latch onto the motor, but it didn't cause any major problems.

An interesting fidget is to quickly move a fader on-screen to the top or bottom of its throw. This causes the hardware fader to whack off the top or bottom of its channel. It doesn't seem to cause any harm, though.

To be a bit picky, the lower rotary knobs intrude a little on the top of the faders' throw. Again, it's not a major problem unless you are trying to ride lots of faders with one hand, but it's a bit odd as there's plenty of room on the panel to place the knobs above the faders. In fact, a few more buttons for solo, mute or, indeed, any other programmable function would be jolly useful. As it is, you don't have access to all the functions you might want to use at the same time during a mix. However, if you're not much of a fiddler and pan and volume are your main concern then you ought to get by just fine.

Verdict

In truth, you can do virtually everything StudioMix can do on-screen. And if you're a child of the software studio revolution, the chances are you won't miss the tactile sensation of faders under fingers and digits in dials. Although the StudioMix does have a sense of immediacy, ultimately it is somewhat of a halfway house, as it cannot be used alone to record and arrange your music – you still have to use the mouse – and you may need to reconfigure it during the process. And just maybe you could think of something else to spend 800 quid on. It's a tough call.

But StudioMix does come into its own for creating the final mix and we're growing increasingly reluctant to hand the thing back! If you are more a hardware man – or woman – than a software one, and if you think you can produce a better mix by riding the faders, then you will undoubtedly already be on your pushbike peddling along to your local dealer.

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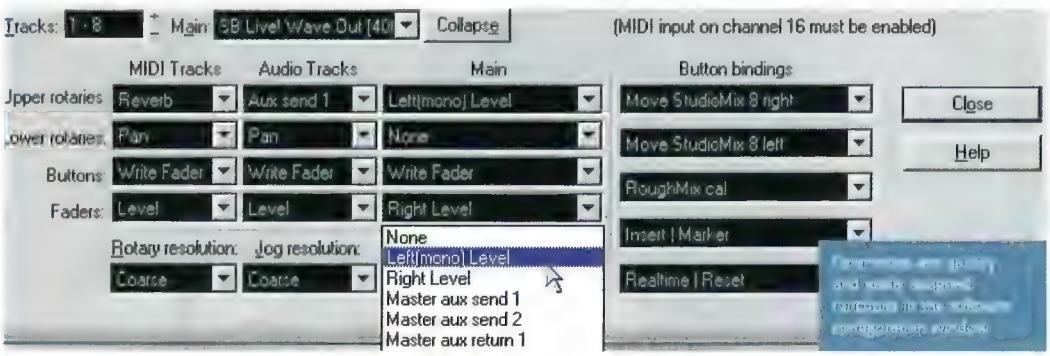

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For Great-sounding useful compression › Close emulation of classic Urei 1176 › Stereo linking easily implemented

Against Position of input and output knobs doesn't quite match front panel legending

Verdict All the flavour of the classic Urei 1176 compressor, yet still a great performer in its own right

Certain pieces of audio equipment have acquired a classic status over the years simply by being extremely good at their job, and are consequently found in just about every single serious professional studio. The Urei 1176 is one of these must-have items, a mono FET-equipped peak limiting amplifier (compressor by any other name) that seems to have been around forever, and has been available in several different incarnations, both black-faced and silver-faced. Once a classic item like this ceases production, the remaining ones in circulation become much sought-after and the second-hand price rises accordingly.

When the demand for something like this exceeds the supply, there is always the chance that the original manufacturer will tool up and re-issue the original model or a very similar substitute, but more likely it will be left to small enterprising companies like Purple Audio of New York City to step into the breach and satisfy that demand.

The Purple Audio MC76 is a mono peak limiting amplifier closely based on the classic Urei 1176. In fact, MC in roman numerals is 1100, making MC76 add up to the magic number. MC also stands for mono compressor, by the way.

Overview

The first thing that strikes you about the MC76 is its very striking, lustrous anodised purple aluminium, casing. The second thing you notice is the uncomplicated front panel with the same array of controls as found on an 1176. Input and output are both taken care of by the two largest knobs, each with a transparent skirt marked with a white line to show an accurate position against the front panel legending.

Curiously, although the knobs exactly match the infinity position at one end of their travel, they fall short of reaching the zero legending at their other extreme. Still, it probably makes no difference, as you know they're off when they reach the clockwise end of their travel anyway. Separate smaller knobs are provided to set the compressor's attack and release times and, as with the original 1176, the attack knob also doubles as a switch to turn the compression off at its full anti-clockwise position. Attack time is continuously variable from 20µsec at its fastest, to the slowest time of 800µsec. Release time is continuously variable from 50msec to 1.1sec.

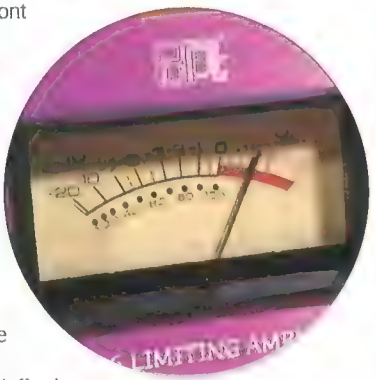
A vertical array of four black rectangular buttons selects a compression ratio from a choice of 4:1, 8:1, 12:1 or 20:1. Whichever button is selected pops out if another one is pushed in separately, but any combination of the four buttons can be selected by pushing them in together. Another array of four identical black buttons is to be found to the other side of the illuminated VU meter. The first of these is the on/off switch; the other three work to select the VU meter to read either gain reduction or output level referenced to +8dBu or +4dBu. If the VU meter should need to be adjusted, there is a hole in the front panel through which a small screw can be accessed with a screwdriver to set the meter back to zero.

On the back panel, power comes in via an IEC socket integrated with a voltage selector and 'slo blo' fuse holder. Two binding posts are provided, both for audio ground and chassis ground, and audio inputs and outputs are via balanced XLRs clearly marked as 'pin 2 hot'.

A small rectangular panel houses the stereo link connections whereby two or more units can be connected for stereo or multi-channel operation. Two jack sockets marked 'offset' and 'direct' provide the connection, and one machine

CD info

track 04
Hear the MC76's extreme compression applied to drums, piano and guitar



Slam dancing
Using the 'all ratios' trick will make the VU slam over to the right, but stick with it to get explosive and wacky sounds

words **Trevor Curwen** images **Simon Dod**

Go purple to satisfy your craving for vintage compression

can be connected to another using a mono jack from its offset jack to the direct jack of the other machine. The link circuitry is powered by an AA type lithium battery, and a toggle switch for polarity is provided along with an offset adjustment pot.

In use

The MC76 was plugged in and tried out on a variety of previously-recorded material, and was also used on a session recording, for both guitars and drums. Operation was straightforward, with the only niggle being the fact that you have to turn the attack knob fully anticlockwise to put the unit in bypass. A separate in/out switch would be a desirable update on the original 1176, but that would be like adding a moustache to the Mona Lisa.

The range of compression available in this unit, from gentle smoothing to over-the-top effect compression, makes it a very versatile machine, with lower ratios ideally suited to recording both bass and electric guitar adding a nice sustain to the sound. Sound-wise, the MC76, like an 1176, seems to thicken or warm up any sound put through it. Taking advantage of a brief opportunity to compare the purple unit with a silver-faced 1176LN, there did not seem to be any great sonic difference between the two. They didn't sound identical, but neither do different versions of the original 1176.

When recording a drum kit, the MC76 was put to use providing compression on a room mic (the Rode NTV also reviewed in this issue) placed about 10' away from the kit. The idea was to compress it to death to get a sucking sound on the cymbals, which could be blended in with the more conventional sounds at mixdown. You can hear the results on this month's cover CD. This sound was achieved using the 'all ratios' trick, where all of the four ratio buttons are pushed in together. In this mode, the VU needle initially slams over to the right, but judicious setting of the attack and release controls can produce some explosive and wacky sounds.

Verdict

The type of compression provided by vintage designs is still very much in demand, and units like this can satisfy that demand at a fairly reasonable price. The Urei 1176 was, and is, a great compressor, and the MC76 follows in that tradition. While it doesn't sound exactly like an 1176, it does have a very similar flavour. This may be missing the point, however, because although the MC76 is clearly based on the Urei unit, it is a great performer in its own right and would be an invaluable asset in any studio.

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specifications

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S/N ratio
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Attack time
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Release time
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Verdict A powerful program, packed with some appealing features, but with some idiosyncratic methods of operation and disappointing support for real-time DirectX plug-ins

words
Ian Waugh

TC Electronic have long been known for their range of quality signal processors, and more recently their software offshoot, TC|Works, have been making a name for themselves with quality digital audio plug-ins.

The Native Bundle includes four effects: Native Reverb, Native DeX and Native EQ Works (which, in turn comprises a Parametric and a Graphic EQ). There are DirectX versions of them all plus VST versions of Native Reverb and the Parametric EQ.

Overview

The installation, frankly, is antiquated and a pain. The programs come on five floppy disks – floppies for goodness sake! The pack includes a CD which has to be in the drive during installation but the software doesn't install from it. For some reason we had to run the initial installation routine twice and the installation instructions in the manual are not correct. It doesn't say you have to enter a serial number, for example, and it doesn't tell you where to find it – if all else fails, look on the box.

There is also a key disk that performs an authorisation on your hard disk, plus another disk for de-authorisation. This sort of copy-protection is popular with Mac music software – but not with Mac users – but it's not something PC users come across very often. It may have been acceptable once upon a time, but now we really need something a little more user- and computer-friendly.

The plug-ins appear in the plug-in or effects menus of the host program. They work in much the same way whatever program they are in, although some sections vary a little. The main area of difference is the preset section. In some programs you can select presets from the plug-in itself but in others it must be done from the host program. It would be nice to get a standard sorted out here, but that's just the way it is at the moment.

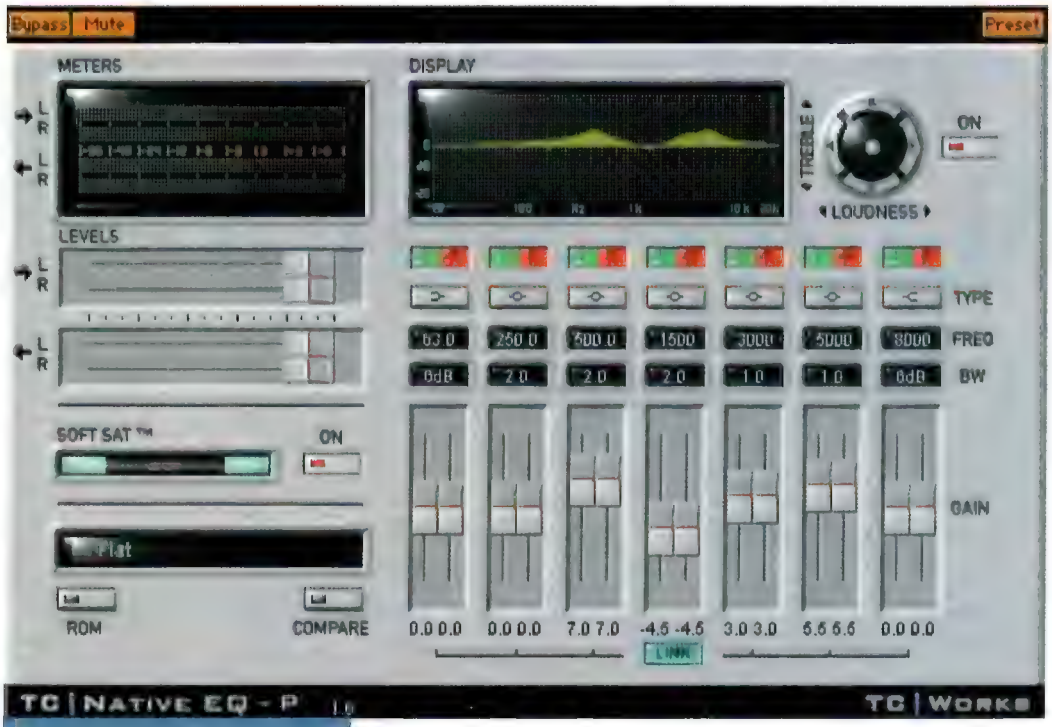
All the plug-ins are highly graphic and have a metallic-look front panel. They are all easy to use, generally containing a handful of buttons and sliders, which are easily adjusted with the mouse.

The DeX plug-in combines compression with a de-esser and includes some easy-to-use but powerful features

Reverb

Let's start with Native Reverb. Do you know how many parameters go to make up a reverb effect? The answer is 'lots' and they include frequency absorption, decay, diffusion, density, delay and so on. That may be fine if you're an audio engineer, but these really aren't the sort of parameters you want to be twiddling with in the middle of a recording or arranging session when you're looking for the perfect reverb to complement a track.

Native Reverb doesn't confuse the issue with a wad of parameters. In fact, most of its reverbs are created using just three parameters – shape, diffuse and colour



The Parametric EQ includes seven fully-programmable bands, plus a virtual joystick for controlling treble and loudness

– which are shown graphically on screen. Shape determines the basic room type and there are three options: square, curved and round. It determines the early reflection pattern, which is responsible for the width and depth of the reverb effect.

Diffuse determines how much liveliness the room has and effectively makes the reverb more dense. Colour varies the sound from dark and mellow to bright. It is responsible for a few reverb parameters but the 'colour' concept makes it more intuitive to use.

Other parameters include decay, room size and predelay, although these are not as graphically displayed as the others. Predelay determines the point in time when the actual reverb effect begins in relationship to the source material. It needs to be adjusted with consideration to the room size. A small room with a long predelay can sound unusual.

There's a ROM button that lets you select 24 factory presets, ranging from tiny boxes to cathedrals. There's not much here in the way of really outré reverb effects but the effect was designed for musical use and that's what it's good at.

Dynamics

Native DeX has rather more controls than the reverb but it serves as a compressor and a de-esser. The main controls are attack, release, threshold and ratio sliders. Between them they control and determine the compression settings. A couple of meters show the amount of dynamics reduction taking place, the incoming signal level or the delay of the active Key Plug-in (see 'Ducking and diving' boxout).

But there's more. A soft-knee button switches soft-knee compression on and off. This smoothes the transition at the point where compression kicks in, which produces a softer compression. There's also a hold time control, which delays the start time of the release of the compression curve. Very short hold times create a sound similar to analogue compressors – dirty and often with a pumping effect, although this very much depends on the release setting.

The de-esser has threshold and frequency controls, plus a monitor button for monitoring the sidechain signal. The lower the threshold level, the more the de-essing effect. The effect is material-dependent and you need to listen to the material while adjusting the frequency control to find the frequency you want to process. You can then lower the threshold until you're happy with the amount of de-essing.

This plug-in also has a SoftSat button, which generates the sort of soft saturation sound associated with analogue tube equipment. However, it also prevents the signal being overdriven to the point of distortion. DeX also has over a dozen presets stored in the ROM button and selected by a mouse click. An A/B button lets you do a quick comparison between two different settings.

If you've used hardware compressors, the DeX display will seem familiar, although it probably has a few bells and whistles you're unlikely to see on a hardware unit. However, if you're more a software sort of person you may wonder why there is no graphic display of the compression curve. Many people find a graph helpful as it shows exactly how the input signal is adjusted during the processing.

features

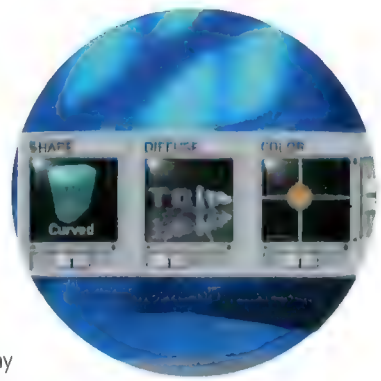
Native Reverb
- Shape, diffuse, colour, predelay, ROM presets

Native DeX
- Attack, release, threshold, de-esser (threshold, frequency, "de-ess", monitor), Key Input, Soft Sat, ROM presets

Native EQ Works
- EQ-P: 10-band EQ (parametric, notch, low shelf, high shelf) EQ-G: 28-band EQ (bell-shaped peak filter)

system requirements

- The plug-ins rely on the FPU (floating point unit) of a processor and the documentation recommends using a PC with a genuine Intel.
- Pentium 133 (200 or faster recommended for best results) 32Mb RAM (but 64Mb or more recommended) Windows 95, 98 or NT Host DirectX or VST-compatible software



Total control
Native Reverb's three main graphic parameters: shape, diffuse and colour

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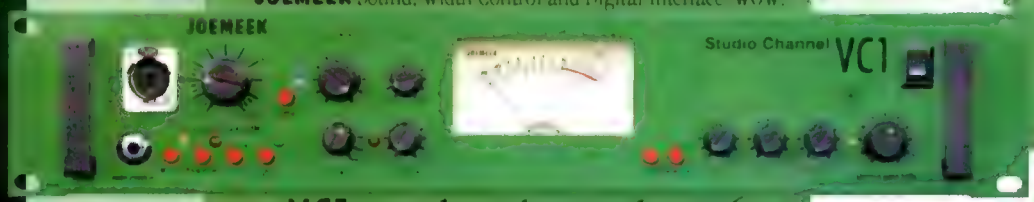

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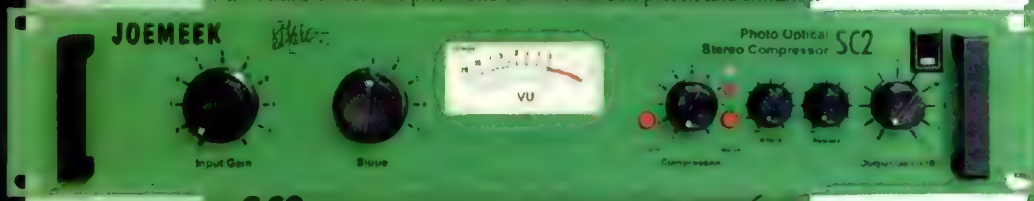

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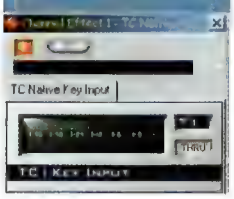
Ducking and diving

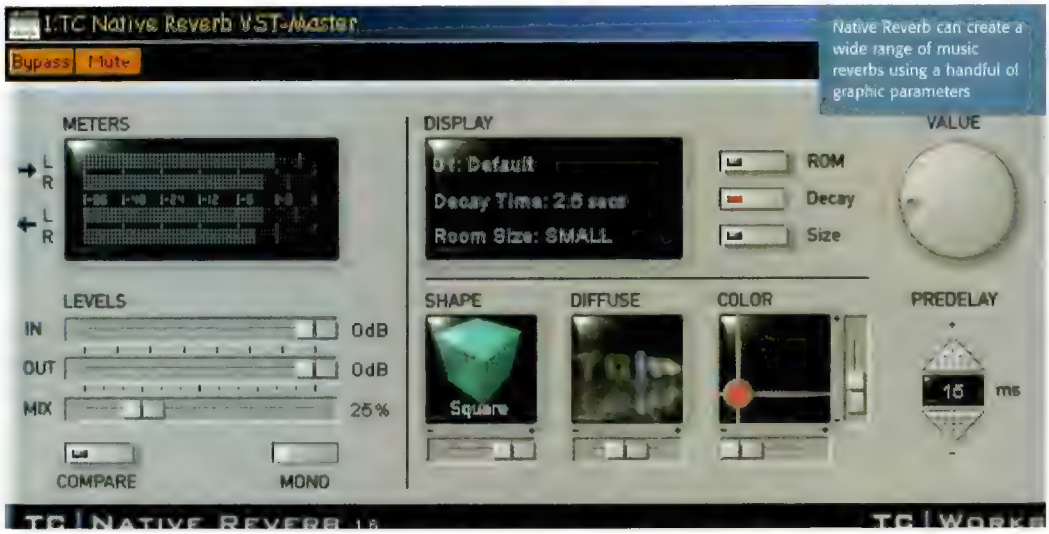
You can use the Native DeX plug-in for vocal or speech 'ducking': automatically fading down a music or a backing track when speech comes in over the top of it and reducing the volume of the background so the speech can be heard. It's the sort of thing used by radio DJs when they talk over the intros of records.

The Native Bundle actually includes a fifth plug-in called the Key Plug-in, which is used in conjunction with DeX for ducking. You activate the Key Plug-in on the channel that you want to be the master or controlling track (this would be the speech track). You then activate a DeX plug-in on the slave or music channel. The master then controls the dynamics of the slave channel. The system is ideal for voice-overs, jingles and so on.

It can even be used for musical applications, say, to make a bass drum or rhythm track control the dynamics of the backing parts. You could use this arrangement to create gate effects, for example. You can also use the Key Plug-in to control several DeX plug-ins on different channels.

The Key Plug-in has only one control, which switches the Thru control on or off. You can activate up to two Key Plug-ins at once and there's a control on DeX for selecting the one to use.





Native Reverb can create a wide range of music reverbs using a handful of graphic parameters

There are two EQs. EQ-P is a 10-band parametric EQ with seven fully-configurable bands and three bands which you control with an on-screen joystick. The seven bands have left and right channels which can be linked or separated allowing you to create different EQ curves for left and right channels. As you make changes, a display above the sliders shows the change in frequency response.

Join my band

Each of the seven bands can be set to parametric, low shelf, high shelf or notch, and you can set the frequency around which they operate and the bandwidth. It's all very flexible. They can also be individually switched in or out of the circuit.

The joystick control is interesting and, like the colour control in Native Reverb, provides more intuitive control over the sound. Moving the joystick in a horizontal direction controls the perceived loudness of the output by cutting or boosting the lower and higher ends of the spectrum. Movement in the vertical direction controls the treble and cuts and boosts the higher frequencies. The joystick is fun to use. It's positioned after the seven bands, so it gives you final control over the sound. EQ-P also includes the SoftSat function and it also includes over a dozen ROM presets.

The other EQ is a graphic one named EQ-G. You can select seven, 14 or 28 bands, which are displayed in the central screen area. You can adjust individual bands by clicking and dragging with the mouse. You can also draw a frequency curve onto the display while holding down the right mouse button and the bands will then automatically provide a best fit.

The 28 bands give you a lot of control over a sound, but the plug-in has a few other neat features, too. For example, the master fader controls the overall bandwidth of the settings without changing the relative positions of the faders. That means if you create a useful setting but think it's a bit severe, you can easily reduce the effect it has on the sound with a single fader without having to try to reduce each of the bands manually by the same amount. Brilliant!

You can also group individual bands by shift-clicking on them. This enables you to adjust several bands by the same amount simultaneously. You can group and ungroup all bands at the click of a button, and you can set all the bands to zero, which is a useful starting point for creating your own frequency curves. It also has some SoftSat function and ROM presets (but only a few).

Verdict

Believe it or not, the pack comes with printed manuals. More than that, they are quality stuff printed on heavy glossy paper, with nice pictures and diagrams, too. However, even though the DeX manual includes a helpful few pages on compression, the manuals could be a lot more helpful in regard to getting the most from the effects.

The effects in the TC|Native Bundle reek of quality. They look good and they sound good. They shun the multi-parameter approach of effects that have so many parameters, you might think some of them are included simply because the programmers *could* include them.

You've probably heard the saying 'less is more'. By not cluttering the screen or trying to confuse the user with mounds of parameters, the effects can concentrate on their prime function. This was never more true than in Native Reverb, where a few settings actually manipulate, behind the scenes as it were, the major parameters that are used to generate reverb. The user, therefore, can adjust the settings in a way that makes musical sense.

The Native Bundle is impressive without doubt, and there can be few digital audio users who would not like to have it in their collection. The effects may not go far enough for users interested in the more experimental aspects of effects processing, but if you want effects for making music, you'll be hard-pushed to find a better bundle.

More from: Arbiter Pro Audio, Unit 2, Borehamwood Industrial Park, Rowley Lane, Borehamwood, Hertfordshire, WD6 5PZ
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Røde NTV

Valve microphone

Price £799

For Excellent sound quality › Solid carrying case › Suspension cradle shock-mount supplied

Against No pad or high pass filter › Mount a little awkward to adjust

Verdict A quality valve mic at a reasonable price

Putting microphones in nice shiny aluminium cases seems to be a trend at the moment. We've just seen the new Shure condenser in its gorgeous art deco sandwich box, and now this new Røde mic has turned up in its curvy-edged, knobbly aluminium attaché case, complete with a set of keys to lock it and built to take the knocks.

The Røde NTV is the fifth model in recent years to have come from this Australian manufacturer, which probably explains the 'V' in its name. This is a valve microphone, and not the first from Røde, who still produce The Classic, a mic that has nine possible polar patterns, two-position high-pass filter, and two-position pad switch. The NTV has none of these, being a basic cardioid-only mic designed for high performance rather than multiple facilities.

Overview

The instruction guide says "The NTV employs some of the world's finest electronic components that were selected for their musicality and lack of distortion. These parts are not standard low-cost items, they are among the best money can buy." True, the transformer is by Jensen, one of the world's finest manufacturers, the capacitors in the circuitry include ones made by Solen, Wilma, and Black Gates, and the connectors are military spec with heavy-duty gold plated contacts.

The microphone is 8" long with a diameter of just over 2", and is devoid of switches and legending, save for a black band at the base with the serial and model numbers and the 'made in Australia' logo. Machined from high-grade stainless steel, the body has a silver-grey non-reflective finish, with the only other distinguishing feature being an inlaid golden metallic spot which identifies the front of the mic. Protecting the capsule is a dual mesh made of stainless steel, featuring a strong coarse outer mesh and a much finer one on the inside. The capsule itself features a 1", six micron, 24k gold sputtered Mylar diaphragm, which is edge-terminated. Unlike the Røde Classic with its obsolete 6072 valve, the NTV features a readily-available ECC81 that has been selected and graded. The accompanying pre-amplifier is based on a minimum signal path arrangement.

In common with other valve mics, the NTV has its own external power supply. Any response pattern selection, bass roll-off, and the like would normally be found on the power supply unit, but as the NTV has no such facilities, the power supply box has a bare minimum of features including on/off switch, IEC socket, fuse holder, a switch to select either 120v or 240v, and a recessed earth lift switch.

A standard balanced XLR socket is provided for the audio output, and the microphone connects to the power supply unit via a 12-way, 30' double-shielded OFC (oxygen free copper) multicore cable, featuring sockets that screw firmly in place at each end.

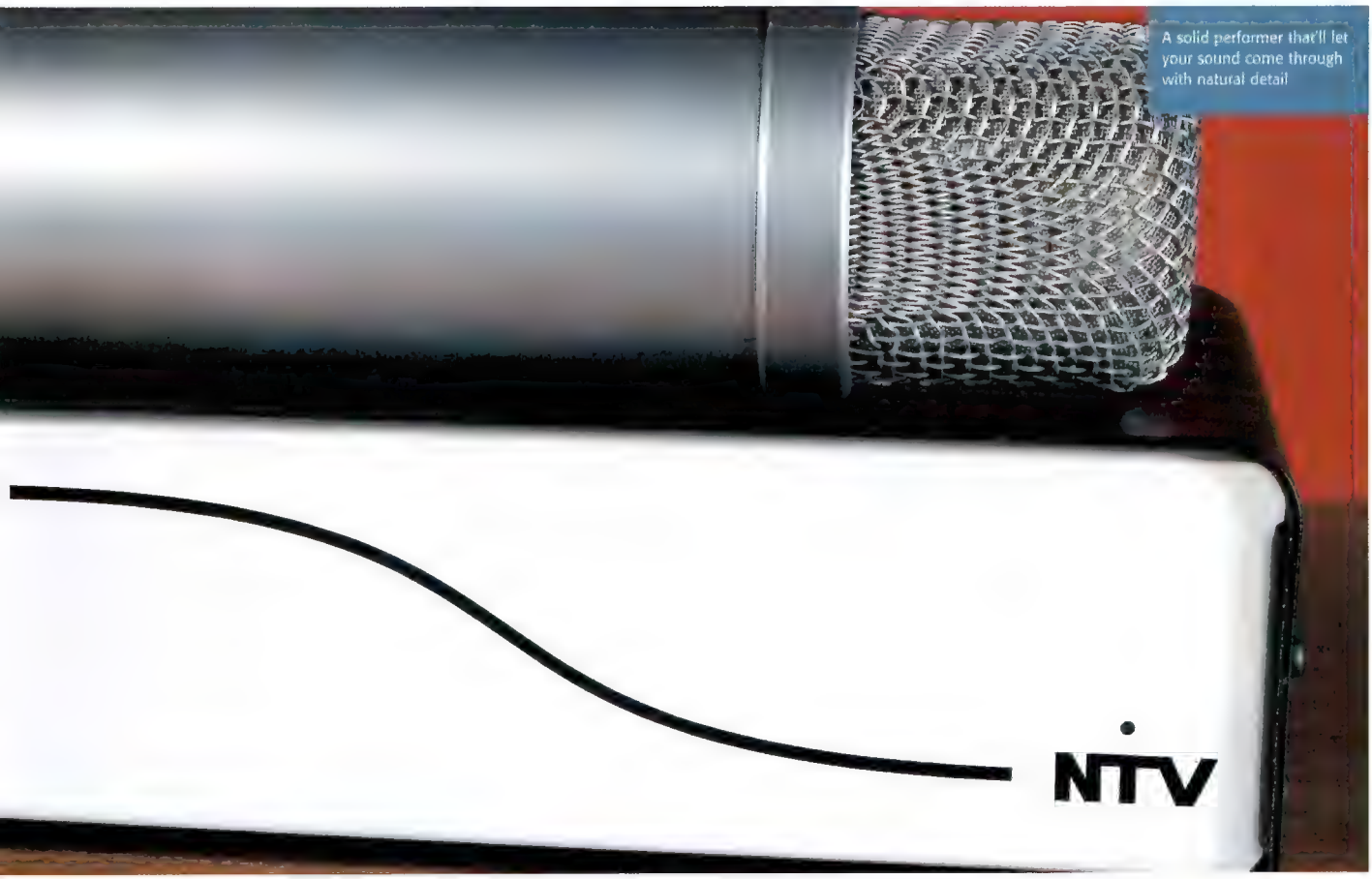
Two different mounts are supplied with the NTV, both featuring a round aperture through which the microphone's base slots, to be held in place by the screw-down locking ring on the multicore cable. The first mount is a simple stand mount, and this will hold the mic firmly in place, although it does need a steady hand and some firm pressure to tighten it up when setting the angle. The second mount, and the one that is most likely to be used, is a large plastic suspension

New valve microphones

Over the last couple of years there has been a real resurgence in the popularity of valve mics, with many manufacturers now featuring at least one model in their range. Neumann, whose vintage valve mics are among the most prized, have just introduced the M147 which features a modern version of the M7 capsule found in old U47s and M49s, and joins the more expensive M149 in their range.

AKG have their very affordable SolidTube mic on offer (revieved in issue 50), and have also resurrected their classic C12, now re-named C12VR. And a new pair of valve mics on the scene are GT Electronics' AM61 and AM62, the result of the Alesis takeover of Groove Tubes. Check out our interview with Groove Tubes' CEO Aspen Pittman on page 122.

words **Trevor Curwen** images **Gavin Roberts**



A solid performer that'll let your sound come through with natural detail

cradle to provide more shock isolation. This also needs a lot of pressure to lock it in position, and it does need to be solidly locked, as the NTV is not light.

In use

Several of the lower-priced (sub £1,000) condensers – valve or otherwise – available come with a fixed cardioid polar pattern. They're probably designed with the project studio owner in mind, who would use it as a main vocal mic and rarely need any pattern other than cardioid. The NTV fits neatly into that category, although it can certainly record more than just vocals.

On a vocal session, the NTV did perform very well and captured the full range of the singer with a natural sound. In a side-by-side comparison with a vintage Neumann valve U47, the Neumann had a smoother top end, as would probably be expected of a microphone costing at least four times the price of the NTV, but the Røde still sounded good alongside it. If anything, it featured a high frequency lift, but there was no frequency plot available to quantify this.

The NTV is also suitable as a room mic for recording drums. Positioned about 6' up and about 10' away from the kit, it exhibited good transient response and picked up the sound with clarity. On tambourine and shaker, the top end detail was accurately reproduced.

Acoustic guitar was likewise successfully captured, with the mic positioned about 4" from the fretboard and pointing somewhere between the point where the neck joins the body and the soundhole. The body of the sound came through clearly, as did the zing of the strings and the finger noise, for a realistic sound.

The lack of an integral high-pass filter is no great drawback, as most desk channels and stand-alone pre-amps have them as standard, but the absence of a pad switch could be a problem when attempting to record something with high sound pressure levels. At no point in the session where the NTV was used did this become an issue, but we never got the chance to record any brass, which might have overloaded it.

Overall, the NTV is an impressive performer, capturing sounds with a natural clarity and openness suggestive of a more expensive mic.

Verdict

The NTV is a solidly-performing, quality mic that does not exert too much influence on a sound, letting it come through clearly, naturally, and with detail.

The other mics in the Røde range offer very good value for money, and this one carries on the tradition. There has never been a better time to buy a mic – with so much competition in the marketplace, quality just seems to rise while prices drop. It's a matter of making a choice, and the Røde NTV looks destined to be the choice of many.

More from: HHB Communications Ltd, 73-75 Scrubs Lane, London NW10 6QU
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CD info

track 03
The Røde in action on vocals, guitar and harp

specifications

Capsule
1" edge connected design

Valve
Selected twin triode ECC81

Polar pattern
Cardioid

Frequency response
20Hz-20kHz

Noise
<19dBA

Sensitivity
15mV/Pa

Max SPL
130dB

Output impedance
200Ω

SHE HAS TWO THINGS LEFT TO CLING TO. ONE IS HER

When the picture was taken, this Honduran girl had just survived the largest natural disaster to hit Central America this century. A mudslide wiped out her home in the Tegucigalpa hills. In a state of shock, she clings to her pet dog - she also clings to the hope that someone, somewhere will help.

The hurricane is over, the relief effort is just beginning.

The disaster may have happened in November, but the need for outside aid is more pressing as time goes by. The hurricane caused immense short-term damage, but the long-term effects could be catastrophic.

The fields are decimated and left infertile. Bridges and roads have been swept aside and access to some regions is extremely difficult. Ironically, though much of the country has been flooded, there is little uncontaminated water to drink. The risk of cholera and typhus is always there, and could reach epidemic proportions.

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Aardvark Aark 20/20+

Multi-channel PC interface

Price £888

For Excellent sound quality › Fully-configurable routing system › Plenty of expansion options

Against Flimsy manual for such a high-end product

Verdict A wonderfully versatile device, with high-quality analogue I/O and a routing system more flexible than a circus contortionist

The Aark 20/20+ system consists of a PCI card, break-out box, driver software and a copy of Samplitude Basic

Never has the PC had it so good. As the number of tracks we can expect to eke out of our systems increases, so too does the multitude of audio interfaces, and the quantity (and quality) of inputs and outputs that adorn their facades. And quite rightly too, since creating a professional-sounding multitrack recording only to squeeze the whole thing out of a mini-jack connector is as ridiculous as the lifeboat situation was on Titanic.

Aardvark's latest multi-channel interface system, rather appropriately titled Aark 20/20+, has seemingly almost as many physical inputs and outputs as your recording software will permit, and so everything can get in and out unscathed, rather than getting horribly drowned in a mash of audio. The bundle includes a plush-looking, external desktop (or optionally rack-mountable) break-out box, which is connected via a 25-pin shielded cable to a host PCI card, some driver software for Windows 95/98, plus you also get a copy of Samplitude Basic to get started.

THE MIX EDITOR'S CHOICE

Overview

All of the inputs and outputs reside on the 20/20+ break-out box: eight balanced/unbalanced 1/4 inch jack analogue inputs and outputs, alongside a set of S/PDIF-compatible coaxial digital inputs and outputs on the front panel, and a MIDI in and out, plus BNC connectors for word clock synchronisation, and TOSLINK-compatible optical I/O on the back. Each of these audio inputs and outputs can be collectively configured using the Software Control Panel.

Adjustments to the hardware I/O settings are made on the first page, with the left-side of the display dedicated to the inputs, and the right side to the output routing system. Each of the eight analogue inputs features a meter bar to display input signal strength (with global peak hold and reset buttons), and switch, pan dial (to route the signal between left and right monitor outputs), and volume control for the monitor bus.

It should be noted that these settings are more like an auxiliary than a channel control and, as such, do not have any effect on the incoming signal strength. This must either be set at the source, or attenuated in the recording software. Some provision for adjusting the input gain is provided by the I/O level page though; here each individual input and output can be professional (+4dBu) or consumer (-10dBv) format.

Inputs 9 and 10 are configured as the digital inputs, and consequently have no pan control for the monitor bus (since it's always assumed to be stereo), but instead, they share a switch to toggle between the RCA and optical inputs. If a valid input signal is received, the panel updates with the reassuring word 'present', and, if external clock synchronisation is selected, then the Aark 20/20+ updates its sampling frequency accordingly. There are five frequency modes available in the Control Panel: three internal (32, 44.1, and 48kHz), and two external, using either the word clock input (30-50kHz), or digital input.

Interestingly, any one of 24 potential signal sources can be assigned to the analogue or digital outputs. These include the ten physical inputs (for direct monitoring of external signals), the ten playback devices, which are essentially the wave outputs from any software using one of the Aark 20/20+'s five audio device drivers, the left or right channels of the monitor bus, or two internally-generated sounds. The latter two modes are silence and test tone; test tone is used for calibrating output levels (or just testing if everything is plugged in properly in your system), and illustrates how thorough Aardvark have been in the specifications for the Aark 20/20+.

In the case of the digital output (channels 9 and

system requirements

- Pentium (or similar) 133MHz or better
- Windows 95/98
- 64Mb RAM
- PCI slot

words
Danny McAleer
images
Gavin Roberts

Upgrade options

With the current software driver, up to four Aark 20/20+ cards can reside in a PC at any one time, each [illegible] card's input. Perhaps the only problem with this [illegible] is that you'd need [illegible] and still [illegible] tracks [illegible].

The Aark 20/20+ [illegible] has more optional extras than an [illegible] including an ADAT compatible 8-channel I/O hardware upgrade, ADAT machine control [illegible] utilising the [illegible] Tascam TDIF [illegible] channel I/O [illegible] separate PCI card to [illegible] host provides [illegible] Another flute-[illegible] add-on for [illegible] Aardvark Aark [illegible] the rack-mounting kit, available in mono or dual format, respectively accommodating one or two of the break-out boxes in a 2U panel.

With all of these upgrade options, a forthcoming Video Lock upgrade, and regular [illegible] driver software (including the imminent release of a Windows NT version – perhaps a Mac driver could be the next step?) the Aark 20/20+ is open-ended enough to grow [illegible]

10), sources are grouped into stereo pairs so, for example, both monitor channels are used, or inputs 1 and 2, or playback devices 1 and 2.

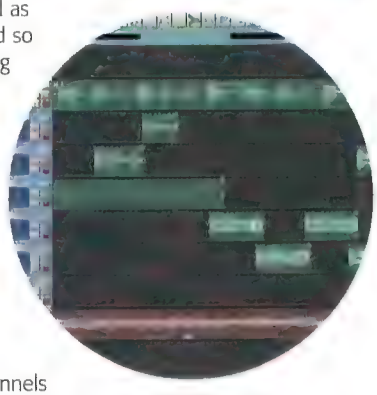
At the bottom of the hardware panel is an extra stereo meter bar that can be set to visually monitor any one of the playback devices, inputs, or of course, the monitor bus. In the absence of any dedicated meter bars for any of the playback devices, this is absolutely vital. It enables you to quickly see if any tracks are too loud, or not outputting anything (because it's quite easy to exit the monitor motorway at the wrong junction), or just in need of a bit more welly, without having to return to the recording/playback software's internal mixer, going through muting tracks or popping them in and out of solo mode.

Finally, on this panel are some global controls for the stereo monitor bus: a global volume control, a useful mute control, and a mono switch. The latter button automatically returns each of the analogue inputs' pan dials to the mono position, thus routing them to both monitor tracks.

Route finder

Just as the outputs are user-assignable, so any of the inputs, analogue or digital, can be routed as stereo pairs (inputs 1 and 2, or 3 and 4, and so on) to any of the record devices, by changing settings in the Software panel. Most of the time, it's best to leave these at their default positions, where inputs 1 and 2 are routed to devices 1 and 2, ad infinitum, just for simple reason that it can become too confusing otherwise. But on occasions, it can be really useful to meddle. For example, software switching of inputs saves having to re-patch an external source when recording onto a different device driver.

Additionally, the monitor left and right channels can be routed to any of the inputs (instead of using the physical analogue or digital inputs). By routing the input sources via the stereo monitor bus, it's even possible to mix them with the playback devices »



Track master
Just to prove the Aark 20/20+ really works, here's CoolEdit Pro playing back loads of tracks simultaneously

specifications

Analogue connectors:
8 x inputs, 8 x outputs, 1/4" connectors switchable between +4dBu/-10dBv, balanced/unbalanced

Digital connectors:
S/PDIF RCA I/O, TOSLINK optical I/O

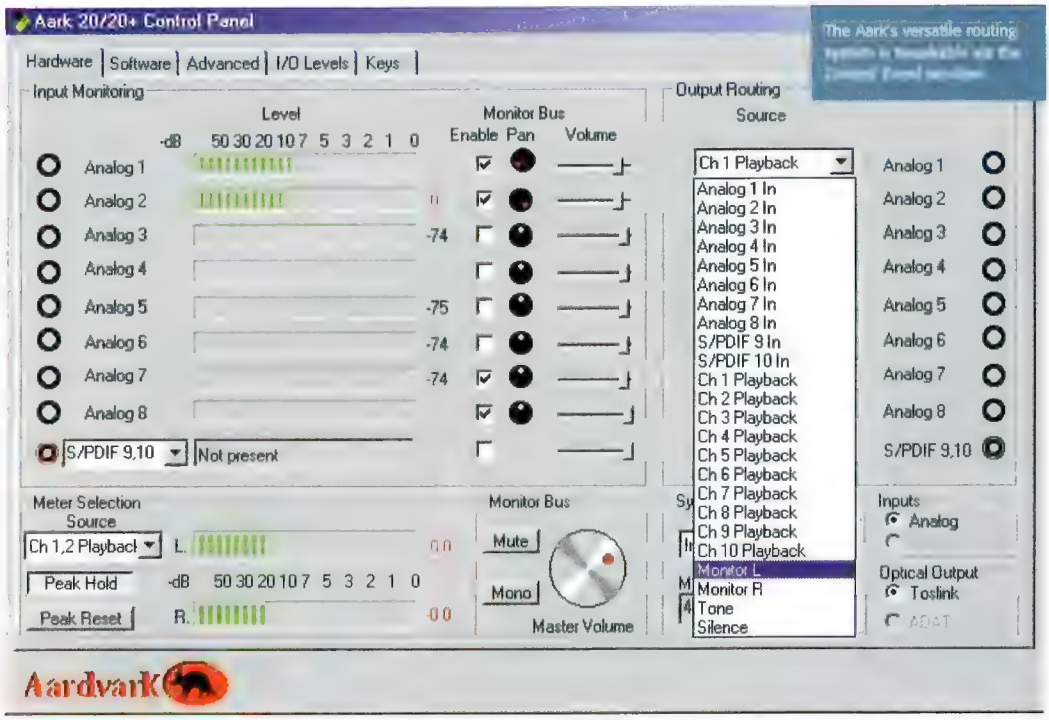
MIDI
In, out

Sync
Word clock I/O, optional ADAT machine control sync

Frequency response
7Hz-22kHz

Converters
20-bit A/D, D/A shielded outboard converters

Sampling rates
32, 44.1, and 48kHz



using just one output device.

In the Software part of the Control Panel, the status of each playback and recording device is displayed, and there are also provisions for routing these devices to the monitor bus by varying intensities, using the volume slider provided for each stereo pair.

With such a versatile routing system, seemingly endless permutations are possible, opening up lots of potential applications for the monitor bus alone. For example, it can be used to set up an independent monitor mix for a vocalist without affecting the overall track balance, just as you'd set up an external mixer for the same purpose. Either that, or the monitor bus can act as a two-track master, mixing as many or as few of the playback devices as you like (and indeed analogue and digital inputs) to a single set of outputs, such as the digital outputs for mastering to DAT or CD-R.

But perhaps one of the best uses for the stereo monitor bus is for track bouncing, and copying audio from one music application to another. Using this feature, assuming the routing system is set-up appropriately, whilst one software package plays a stereo file using one of the playback devices, another can record it. Now there's no need to go through the lengthy process of exporting and importing wave files from package to package: the whole thing can be done in real-time. For example, live performances from software such as ReBirth can be recorded straight into a direct-to-disk recorder. It's using the Aark in this type of set-up that is the only exception to the rule that incoming audio signals must be attenuated at the source, since the appropriate mix balance can be set using the various monitor bus input volume sliders on the Hardware and Software panels.

In all likelihood, once the Aark is set up and working nicely with the PC, and all the external components are plugged into it, it's doubtful whether you'll return to the last section in the Control Panel very often. It's here, in the Advanced page, where the interface's fundamental properties are tweaked, including the digital I/O format, the profile of the master Aark card (if you're affluent enough to own multiples of them), and various settings pertaining to ASIO drivers to improve latency, such as buffer and sample size.

Verdict

One of the improvements that the 20/20+ has over its predecessor is the inclusion of a MIDI input and output. Not only does this provide an extra means of synchronisation (using SMPTE or MIDI clock), but of course, it allows the Aark 20/20+ to be used as a standard MIDI interface in any sequencing package, adding one more facet to its already overwhelming list of capabilities. Other new features worthy of a mention include support for balanced line inputs and outputs, software switchable line I/O levels, and the inclusion of optical connectors in addition to the RCA digital I/O.

It's quite apparent from using the Aark 20/20+ that a great deal of care has been taken in its design and implementation. It isn't just a means of getting signals in and out of the PC with astonishing clarity (though this alone should be reason enough for owning one), but with the comprehensive Control Panel and all its routing possibilities, it's like having a patch bay, mixer, MIDI interface, and multi-track recording interface all rolled into one. In fact, the only downside to the Aark 20/20+ is that once you've got one installed, you'll want another...

More from: The UK Office, Berkhamsted House, 121 High Street, Berkhamsted, Hertfordshire, HP4 2DJ Tel: 01442 870103 Fax: 01442 870148 Email: tuko@theukoffice.co.uk

Compatibility

As with all multiple I/O audio cards and interfaces, the Aark 20/20+ makes itself available to Windows software as independent stereo MME drivers (five for input, and five for output), and so it will work with almost any software – even programs that can only handle one input and/or one output. It's even possible to run more than one of these single I/O applications and configure the Aark 20/20+ to replay their respective outputs simultaneously, using different playback devices.

Multiple channel recording is available to software such as Cubase VST (with specially-developed ASIO drivers for low-latency in multi-channel modes), Logic Audio, Cool Edit, SEK'D Samplitude (the omnipresent Basic version is included in the Aark 20/20+ bundle), Cakewalk Pro Audio, SAW, anything that supports more than one MME device. With a suitably fast PC, all ten channels can be recorded upon or played back at once.

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Digital mixer

Price £1,175

For Onboard effects and processing › Easy to use › Memory recalls

Against Only eight input channels › No auxiliary return › No digital I/O

Verdict A desk intended for the live market, but with enough features to make it a versatile choice

Will this versatile live mixer also find a home in the project studio?

You're right, *The Mix* doesn't normally do live mixers. The trouble is that we just wanted an excuse to try out the new ICON series mixers from Allen & Heath because they're digital mixers for around about £1,000. If you're looking to put the DP1000 powered digital mixer into your studio, then you could probably find a useful place for it, as long as you don't mind only eight input channels (six mono, and two stereo channels). Alternatively, you could consider the £951 DL1000, which is the same apart from the lack of a power amp.

The ICON advantages are built-in dynamics, multi-effects, and EQ, as well as its snapshot recall, so maybe this will suit you, and maybe not. Either way, it's another new take on the digital mixer, and one that pure recordists would do well to take note of. Simple operation is the key here – no complicated routing, no intricate menu structures, no faffing. Don't you wish all mixing could be like that?

Overview

As we've said, the DP1000 has eight input channels: six mono and two stereo. The top of the mixer is populated by 13 faders, loads of rotary encoders, gain knobs, a mass of white rubbery buttons, and an LCD display. The DP1000 also has an integral stereo power amp that you can switch to feed from any one of the four output busses: foldback, auxiliary, L/R, and mono.

Each of the input channels has its own set of blocks: 4-band parametric EQ, noise gate, compression, panning, auxiliary, and so on, and these you adjust with the encoder knobs that run along the top of the fader, while watching a graphic representation on the screen. The graphic EQs are permanently inserted into the AB output path, and the effects processors have their own internal auxiliary busses.

Assigning jobs to the encoders is as complicated as the DP1000 gets. Rather than having a channel strip of encoders as on the Spirit 328 (see our user report in issue 61), each knob normally adjusts a level for each channel. That changes when you get to the channel EQs, when the row of encoders becomes the EQ controls for a single channel. You make most encoder assignments with a bank of Select switches over on the right-hand side of the console.

Okay, let's get down to the nitty gritty. What has a DP1000 channel strip actually got? It starts with the input, either mic or line, both balanced. Next is the only analogue control, the gain knob. No problem so far.

Next you get into the digital domain via the A/D stage. Conversion is 20-bit, though the internal processing is actually 24-bit, and the sample frequency is always 44.1kHz. As there's no digital inputs, the conversion side of things is invisible. Whether that's a good or bad thing depends on your application.

In any case, the A-D converter feeds the 4-band parametric EQ. This is where all the encoders stop what they're doing and join forces to give you direct control over all the EQ parameters for one channel. The screen graphic is a nice touch here – a frequency response graph showing you at a glance what you're doing to the signal.

'Because you can doesn't mean you should': this is the dilemma that faces manufacturers of digital consoles when it comes to the EQ. Some opt to keep it traditional and limit the frequency range of each band, while others give you the whole range and leave you to it. Allen & Heath have gone for the former, choosing ranges that still give meaning to hi-mid, and lo-mid. Each one covers around four octaves, give or take half an octave or so. The two mids have four discrete Q settings from 0.2 to 1.7 octaves.

After the EQ comes the noise gate. It's nothing fancy, each one has three parameters: threshold, attack, and decay. The display shows the level of one parameter for every channel, adjusted by the corresponding encoder. If you want to change the parameter, just cursor your way down or up the on-screen list and the encoders become that parameter.

The compression section, next in the input channel chain, works in the same way. To get a compressor working with just three parameters, Allen & Heath have had to do exert a bit of cleverness by lumping the usual controls into Drive, Response, and Knee type (soft or hard). Drive determines the amount of

words
Paul Mac
images
Simon Dod

compression and Response is a sort of threshold and envelope thing rolled into one.

After compression comes the PFL and mute buttons. These are self-explanatory, but we'd just like to mention that the buttons have little pictures on them instead of writing. Could this be what inspired the 'Icon' name?

Back to your routes

The foldback control is always pre-fade, and the single external auxiliary bus can be switched between either pre or post-fade positioning. The other two, the FX auxiliaries, are always post-fade. And lastly, there's the pan control. All of these controls get assigned across the encoders (one for each channel) when the appropriate Select button is pressed, and each is accompanied by some neat graphics on the LCD.

As you've probably gathered, there's five main busses running along the input channels: LR (main stereo buss), Foldback, Aux (the external auxiliary), FX1 (a stereo aux feed into one of the effects processors), and FX2 (a mono aux feed to the effects processors). The stereo FX buss is intended for insert effects and the mono FX buss is intended for reverb processing. Each has its own PFL switch.

Most of the outputs are obvious: foldback and auxiliary, a mono (LR sum), a slave AB output (the AB buss carries the amplifier input selection), high and low-level LR outputs, and the headphone socket. For the amplifier input you can choose any of the four external busses (note that there is no dedicated auxiliary return or tape input). And that's about all there is to it.

The DP1000 has three types of memory: venue, set, and song. The venue memories (19 maximum) store the graphic EQ and output mode settings. This way a band can set up for a particular room with the necessary tonal correction and store it away for the next time they play there.

The song memories (127 maximum) store all of the mixer settings, like effects and dynamics »

specifications

Input channels
8 (inc. 2 x stereo)

Dynamics
Compressor and gate on input channels

Channel EQ
4-band parametric

Frequency response
20Hz -20kHz +0/-1dB

Insert effects (in FX1)
stereo algorithms

Reverb effects (in FX2)
mono in, stereo out

On-board amp
Stereo, 300W into 4Ω per channel

Ins and Outs

Yes, there are only eight input channels in the DP1000 and DL1000 consoles, but the complete I/O rundown is far more promising. As this console is intended for live use, the outputs are a lot more varied than the inputs

Mono inputs
There's six channels of mono inputs, each with the choice of either balanced jack or XLR for mics. There's a global phantom power switch on the top of the console

Stereo inputs
The two stereo channels offer three different connections: jack, XLR or phono

Mono output
A jack output for your sub bass, simply a mono sum of the LR outputs

LR outputs
There's two choices: either high-level balanced jack outputs (0dB), or low-level phono outputs (-10dB)

FB output
A mono foldback output fed from the foldback bus, which has a pre-fade tap from every input channel

Aux output
The only purpose-built external auxiliary output on the DP1000, fine if you want single-ended sends, but there's no aux return, so you'd have to use up precious channels for that

AB slave outputs
A stereo 0dBu output from the AB amplifier feeds. They are positioned after the 10-band graphic EQs

AB speaker output
The Speakon connector output from the in-built power amplifier on the DP1000. On the DL1000 this becomes a +4dB amplifier feed

Footswitches
Four footswitch connectors for Next and Pause (set/song controls), and FX2 and FX1 (effects channel fader control)

MIDI
In, Out, and Thru for mute automation, program changes, and bulk dump

RS-232
Serial computer connection for updating the console's software

settings, pans, EQ, and trim levels. The fader positions are not stored, because the trim levels are, and that leaves a certain amount of flexibility. If you want to step through a series of song memories, you program up to 20 into a set.

There's a number of ways to load and step through songs, venues, and sets, though for live performances the footswitch option is particularly convenient. There is no truly dynamic MIDI control, but you can do mutes and song recalls with MIDI.

Effects

The two effects engines in the DP1000 are not identical, they are intended for two different purposes. FX1 is a stereo engine for the insert type effects. There's at least a couple of versions for each effects type, and on top of that you get up to four parameters to tailor them for your particular needs.

There are eight mono echoes where the left and right inputs are summed, four stereo echoes where the original balance is retained from input to output, and two 2-tap bounce echoes that fling the repeats between the left and right sides. The echoes are blessed with the most editing parameters in FX1, including decay time, damping, and regeneration.

The algorithms continue with the chorus, doubler, flanger, 'phunnels' (resonant phasing), vibrato, tremolo, and finally, the auto-panning programs.

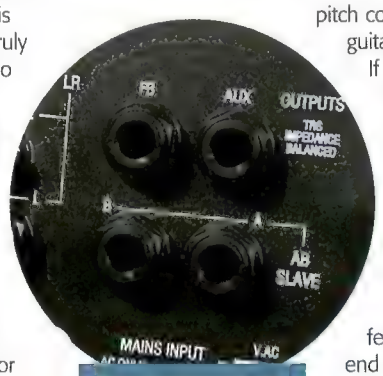
The FX2 portfolio consists of reverbs. This is a mono in, stereo out effects engine, for the simple reason that reverberation would be most naturally derived from a single source and turned into a stereo image once it's been around the room a few times. There are six combined algorithms for FX2 consisting of an echo plus a reverb, but the majority are single reverbs. Once again, each algorithm has several preset variations, so the number of presets actually add up to 40. The basic spaces are stage, wood room, room, hall, chamber, church, arena, plate, vocal plates and a spring reverb simulation.

The wide choice of reverbs mean you probably won't be stuck for one when the time comes, and the settings are fairly safe. That is, the defaults won't upset you, and you can't really go too far wrong when you're editing them. The wood room space is nice and soft and a good option for most things if you're trying to avoid anything too obscene. For bigger spaces, the last couple of hall reverbs are smooth and rich. There may be too little tonal variation amongst the reverbs overall, but if you want a bit of zing you'll find yourself in the spring reverbs.

In the FX1 block the effects are numerous, but again not so outlandish that they just waste space. The echoes (delays) are versatile, but might be served well by a tap BPM function, something it seems that people are beginning to expect.

The chorus can become quite extreme, which is nice for novelty, but you'll probably tend to stay in the subtler areas where it really is very natural. The flanger is great. It's got a wide parameter range, all the way to an almost vocoder-type of sound, but without the pitch control. Phunnel is there to indulge the guitarist, with its resonant 'pipe' phasing.

If there's anything missing in the effects section it's a stereo width adjuster, and the BPM tap function. Adjusted properly, the bounce algorithm can have a reasonable go with the stereo field, but it isn't natural enough for detailed work.

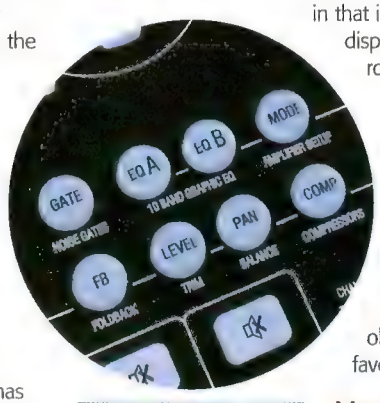


All your output needs are catered for, unless you need more than one aux

In use

It's not very cool to go on about the feel of controls on equipment – you end up knee-deep in double *entendres* – but in this case we have to make an exception. Those white buttons are made for hitting, and as long as your aim is true, you can happily batter them all day without too much finger fatigue. There's no mistaking the markings either, and just when you thought it was obvious enough, you notice they've all got little lights behind them– just the thing for darkened venues.

This is a hint at the big DP1000 issue: simplicity. Every part of this console's anatomy scores high in that important 'ease of use' category. The display couldn't be more obvious, the routing couldn't be more transparent, and the editing... easy! The channel EQ is pretty transparent, with an especially airy high shelf which would be good for enhancing miked instruments. It's not difficult to get the settings right. Remember that the DP1000 has an integral amplifier. That's a saving already; you can ditch your old hi-fi amp (go on, admit it) in favour of a nice tidy one.



These useful select buttons assign functions to the encoder knobs

Verdict

There's plenty more bits and pieces we could go on about, but the main message is clear: a well thought-out user interface, just the right mix of effects processing, and the advantages of memory recall. We're not pretending that the DP1000 has a obvious place in the studio, but if you can only afford one mixer and you play live, or if you want the built-in effects, channel dynamics, parametric EQs, and an amp all in one box, then it might get in by the side door. Maybe Allen & Heath will consider turning this technology to use in the project studio. In any case, it will definitely impress the gigging fraternity.

More from: Allen & Heath, Kernick Ind Estate, Penryn, Cornwall, TR10 9RU Tel: 01326 372070 Fax: 01326 377097 Web: www.allen-heath.com Email: sales@allen-heath.com

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JoeMeek C2

Compressor

Price £199

For Quality sound ⊙ Great mastering tool at a budget price ⊙ Capable of creating a wide range of effects

Against Doesn't fit into a racking system ⊙ Operation is not instantly familiar

Verdict An excellent tool for the project studio, at a bargain price

The clean and quiet C2 – an excellent compression tool for the project studio

In an age of faceless R&D departments, it is refreshing to see that in the music technology arena, the individual designer can still survive and prosper. The innovator in this instance is JoeMeek's Ted Fletcher, designer of one of the first-ever compressors, which was used on numerous recordings in the '60s with Joe Meek himself in the producer's chair.

Is it a mistake for manufacturers to continue producing outboard equipment? There's strong competition coming from algorithm driven plug-ins that allow users to design their own dynamics control, or emulations of existing effects units – simply witness the recent endorsements of the Focusrite plug-ins to convince you of this. You need to have something extra in the locker when marketing new outboard units. This is where branding comes to the fore, and the JoeMeek legend. So does this unit provide something unique in today's environment? Ted Fletcher believes that it does.

Overview

The C2 emerges from its packaging in the distinctive, calming green Meek livery but – surprise, surprise – its physical dimensions are firmly within the micro family. This will be a little annoying for project studio owners who've invested in racks. It's designed for the project studio and lays claim to providing the unmistakable JoeMeek sound without compromising quality, for those on a strict budget. It comes complete with a transformer and a strapping two metres of cable, allowing a good degree of flexibility when setting up within your existing system.

The compressor functions as a linked photo-optical compressor, with balanced I/O on rear-mounted 1/4" jacks. It has a simple, clearly laid-out front panel, boasting high build quality, incorporating a nine-point LED input meter ranging green through amber to very dangerous red indicating the signal level after compression, but before the output stage, and a five point LED compression meter, both of which become valuable tools during operation.

The front panel controls are five rotary pots, controlling input gain, compression, attack, release and output gain. The input and output controls have indented action with a very positive feel. The only other control is a latching bypass switch, which introduces audio path gain adjustment and instant muting of a compression sidechain as well as the optical cells. This results in an extremely convenient true level comparison system – a nice touch indeed.

In use

The C2 has been designed to provide you with sufficient gain to operate as a standalone unit, although it will not operate in this mode with mic level signals plugged directly into it. It's designed primarily to operate as a stereo compressor, but will function as a mono unit with its compression control set at or near maximum. A word of caution to the wary: it will not function predictably when used as a dual mono system due to its use of encoding and decoding circuitry.

There is no separate threshold control, but the front panel compression pot adds gain to the sidechain, which effectively varies this value. The compression starts very gradually, and the ratio changes with programme content and amplitude in a 'soft knee' manner. All the controls are interrelated, so you can get tied up in the process of finding the effect you are after. It is definitely a tool that requires you to live with it for some time before being able to arrive at a desired setting quickly. On the plus side, it is very musical in operation.

There is a propensity at extremely fast attack times for the C2 to react heavily after the initial transient has passed, particularly on percussive material

Meek but not mild
The balanced I/O are on rear-mounted 1/4" jacks. Input and output gain is controlled via a front panel control

words **Alan Fisch** images **Gavin Roberts**

Optical compression

One of the major factors distinguishing one compressor from another is how our ears perceive relative loudness of a signal; it also has the advantage of allowing a turn modulates a control voltage. Utilising principles, optical

when driving the unit hard. This over-compression can be used creatively to contribute to movement and drive within the track, but can also produce unwanted side effects if not used sparingly.

The unit's effectiveness is largely governed by judicious use of the input gain control, and it can operate quite happily up to the overload point. It is possible to get quite serious sustain effects with full compression and heavy drive into the input stage, and it can turn a relatively tame guitar sound into an overdriven stack the size of Yorkshire.

Drum sounds are instantly given real body and punch with slow attack and fast release times. It is quite addictive to see just how far you can push this unit. It has the ability to completely change an instrument's timbre – great when you're consciously trying to push a sound to the limit, but not as good when dealing with complex, naturally-sustaining sounds such as pads and strings.

A more subtle approach is called for on material of a dynamic nature, such as vocals, but the passage of transients allows the recording to retain a real life and presence that's usually limited to more expensive units. The C2 has been designed to turn into a limiter at extreme input levels; however, as it is transparent to transients, these escape the limiting effect. At high operating levels this can cause damage to your system, therefore caution should be exercised.

The unit really comes into its own when applied to stereo mixes, and retains a good level of transparency even when operating with a high degree of gain reduction.

Verdict

The C2 demands that you grow into it as a user. There's no instant recognition of your usual suspects when it comes to setting up the parameters for recording a vocal, for instance.

The Mid and Side circuitry provides excellent stereo stability and location information, giving the C2 a great advantage when used as a mastering tool. The unit is capable of handling individual and stereo source compression with equal ease, up to final stereo mastering standards, and is clean and quiet in operation, retaining the sound and quality of its more expensive forbears.

The C2 provides an excellent tool for the project studio. With some effort on the part of the user, it is capable of creating a wide range of creative effects – right through the recording chain to effective mastering of finished mixes – with incredible stereo stability. Here's your chance to buy into a quality family of units for a bargain price.

More from: JoeMeek Distribution, Quay House, Quay Road, Newton Abbot, Devon, TQ12 2BU
Tel: 01626 333948 Fax: 01626 333157
Web: www.joemeek.co.uk

specifications

Inputs/outputs
Balanced 1/4" jacks

Max input
+28dB

Max output
+28dB

Compression range
2:1-14:1

Attack times:
Variable 1ms to 11ms

Release times
Variable 250ms to 3 sec

System gain
26dB maximum variable stereo I/O

System noise
-90dB

Signal-to-noise ratio
118dB

Frequency response
8Hz to 30kHz (-1 dB)

Harmonic distortion:
<0.01%

Aphex Aural Exciter

Psycho-acoustic enhancer

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For Fantastic control of low frequencies › Simple and easy to use › Selectable amount of upper harmonic generation

Against The hated wall-wart power supply

Verdict Brilliant for lifting up a dull mix

Aphex is not a name that is new to the audio market. Indeed, this company has been making studio equipment for some 24 years, with their first piece of equipment being their patented Aural Exciter. Since then, the Aural Exciter has become an industry standard in studios around the world. It has been used to liven up dull mixes on hundreds of records, CDs, films, and broadcasts, and even live concert engineers love it. Yet interestingly, in the early days, Aphex only allowed units for rental and sold none. Then in 1982, they hit the sales marketplace with their Type 2 processor. The rest, as they say, is history.

Since then, this versatile machine has come a great distance, with refinements and simplification bringing the prices down to the level where DJs and project studios can own one without destroying the bank balance. As well as that, they have now had somewhere in the region of six different versions over the years, ending up with this little cracker that will get even the hardest of engineers dribbling.

Overview

So what does an Aural Exciter actually do? It is basically an audio processor that recreates and restores missing harmonics. No matter what you record onto, you can bet your life you will suffer some harmonic loss for various reasons, and sometimes the effect of this is to make reproduced sound very dull, flat and lifeless.

The Aural Exciter adds those missing harmonics and restores a natural clarity to sound, improving detail and intelligibility to bring your dull mixes back to life. The vintage models were based around technology that was amplitude-dependent, mainly because the higher the amplitude, the greater the amount of harmonics, but it was soon realised that undesirable transients could occur with this method. So the guys at Aphex introduced Transient Discriminate Harmonics Generators. This very complex technology can recognise transients over a wide dynamic range, resulting in a far smoother enhancement of sound.

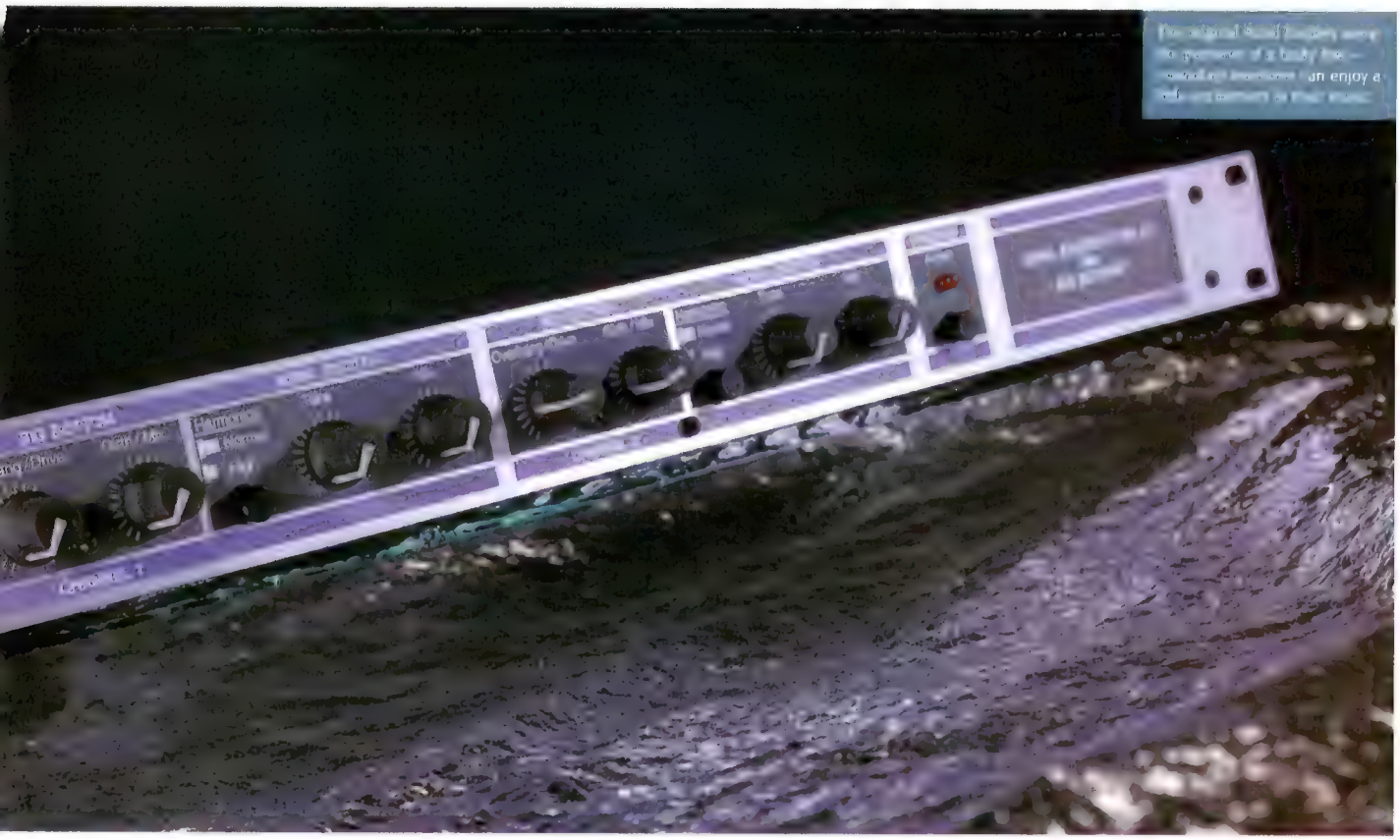
This C2 unit also has the Big Bottom, which is another patented Aphex design. It is still based on those early machines, but is much quieter and smoother, and with its flexible bottom-end control, it has revolutionised the processing of low frequencies. It provides a stronger, more powerful bass by increasing the sustain and density without upping the output level. It works like the Exciter, but the sidechain incorporates a 100Hz low-pass circuit and dynamics processor, which contours the bass response of complex sound from 20Hz to about 120Hz. This results in dynamically-optimised bass response.

Zooming in

There are two channels onboard the C2, each with its own Big Bottom and Aural Exciter. The Big Bottom controls are made up of an overdrive/hang knob and a girth/mix knob. The Aural Exciter consists of a tune control and a mix control, and each channel also has an Aural Harmonics switch that allows the user to adjust

Show me that ass
The Big Bottom overhang/drive controls the optimum level required for the Big Bottom to work effectively

words **Seb Pecchia** images **Simon Dod**



the amount of harmonics generated.

The tune knob adjusts the corner frequencies of the high-pass filter, with a range of around 800Hz to 6kHz. The mix knob varies the amount of enhancement mixed back into the original signal from the sidechain. On the far right of the front panel is the process switch, which cuts the enhanced sidechain signals in both channels simultaneously.

In use

An Aural Exciter can be inserted anywhere in the audio chain. The incoming signal is separated, with one path going to the output unmodified, while the other enters the Exciter's circuit, which consists of a high-pass filter and the harmonic generator. The Exciter then applies FDP (frequency dependent phase-shift) and ADH (amplitude-dependent harmonics). The output is mixed back with the unmodified signal at a slightly lower level, and the listener's perception is an increase in mid and high frequencies. The unit does *not* add level to the original signal, however.

Many producers have favourite uses for the Exciter. For example, it's very useful for voice-overs and ADR (automatic dialogue replacement). With voice-overs, the objective is to eliminate reflections from the recording and capture a crisp, untainted sound with no reverb, which can result in the recording sounding too dry. In practice, a small space is used with a load of acoustic tiles and other absorbent material in it. This gives a good result, especially if the mic and preamps are high quality, but you still lose that harmonic detail sometimes. You could liken it to an aura or 'sheen' around the voice. Patch in the Aural Exciter to rejuvenate the clarity. You could EQ the signal, but that would add level, where the Exciter doesn't.

On the cover CD, the Exciter has been set upon a synth piano sound that is generally good, but lacks bottom end, and therefore that real piano quality. A subtle amount of the Big Bottom puts everything to rights and the effect is a meaner-sounding instrument. Then by inserting the Exciter into the signal, the sound is a far cleaner, the harmonics are brought up to scratch, and there's still no worries about added level.

Verdict

The Aural Exciter is so popular it has to be called a classic piece of gear, and it works effectively in a host of situations. Sometimes it can be deceiving because it's simple to use, yet carries out a very complex job. You really do lift a dull mix up with it, it's a complete must for voice-over work or vocals.

The other reason this stands out as an all-time great is that no-one else has really matched it, and why should they even try when Aphex do the job so well? The development of the Exciter over the years has kept it at the top, and as well as brightening up dull signals, it always proves to be a catalyst for crap humour on long sessions. So never be embarrassed to buy one, even *with* a Big Bottom...

More from: Pure Distribution, Kimberley Road, London, NW7 7SF Tel: 0171 328 0660
Fax: 0171 372 6370
Email: sales@pure-distribution.com

CD info

track 06
On the cover CD, the Exciter has been used on a synth piano sound that lacks bottom end. A subtle amount of the Big Bottom puts everything to rights and the effect is a meaner-sounding instrument. Then by inserting the Exciter into the signal, the sound is far cleaner, the harmonics are brought up to scratch, and there's still no worries about added level.

specifications

Connectors
1/4inch jack

Frequency response
10KHz -38KHz (±0.5dB)

Dynamic range
108dB

Hum and noise
-85dBu

Cross talk
-70dB

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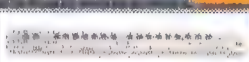

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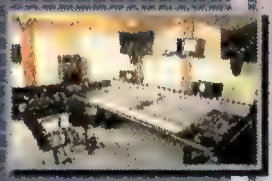

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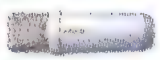

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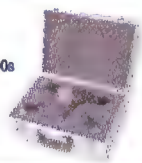

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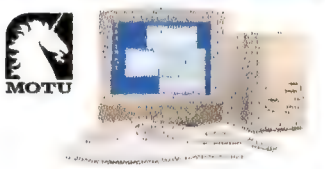

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DUY DSPider

TDM plug-in

Price £1,157

For Lets you design your own TDM plug-ins! ⊙ 200 ready-made patches supplied ⊙ Sounds great

Against Every patch uses a whole DSP chip ⊙ Edit mode could be more friendly ⊙ Manual needs a tutorial

Verdict Think of an effect, then make it in DSPider. The most versatile plug-in you can buy

words
Paul Mac

CD info

track 08
A taste of the ready-made presets that come complete with DSPider

Hands up those of you who have tried an RA Penfold audio electronics project, or a complete auto-wah kit from Maplin. Some of the most accomplished electronic engineers in the business are still trying to get the fuzz pedal to work. All that effort for what? A little box that clicks when you turn it on and buzzes when you plug a jack in.

Your torment is over. You can now build almost any effects processor you want with just a mouse and ProTools. Or choose one that somebody else has made up and use that instead. We're talking about DUY's DSPider, an ingenious piece of software if there ever was one, and one of the most innovative software products of the year.

THE MIX EDITOR'S CHOICE

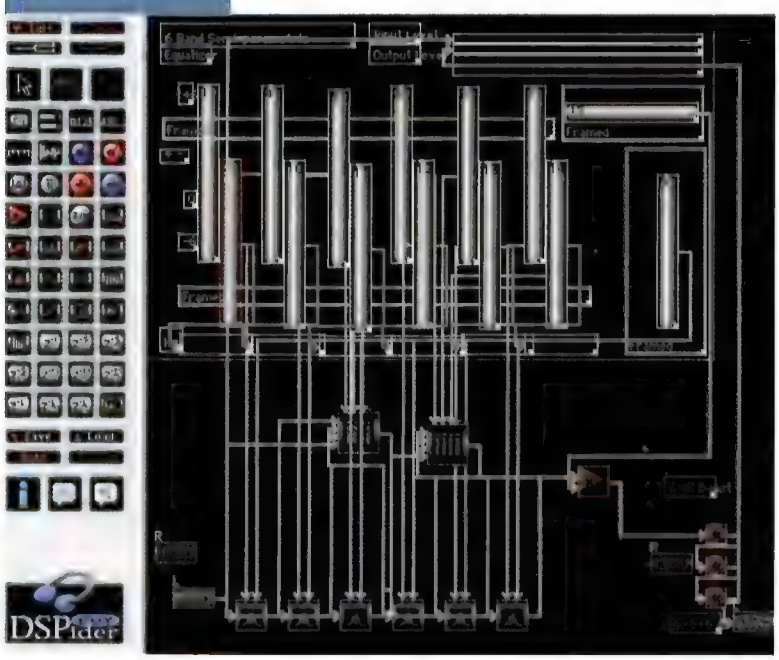
Overview

The idea is simple enough. Get a bunch of virtual processing modules and let the user arrange them however he or she wants, then to start them off, give 'em a few complete ones you made earlier. DSPider is bigger than that though. You can build your own plug-ins from a choice of 40 different modules, ranging from controls, scopes, and plasma meters, through filters, oscillators, and spectral shapers, and on to transfer functions, delays, and reverb chambers – to name but a few. You can arrange everything down to the graphics that appear when you load the plug-in up. As for a few to get you started, DUY supply two disks of finished plug-ins for you to use, totalling about 200 different plug-ins. Sounds good, doesn't it?

If you want to take advantage of DSPider, you're gonna need a TDM ProTools system. That is, Digidesign's software and hardware platform for hard disk recording, mixing and editing. We haven't got room to go into the finer points here, but basically you get a whole bunch of DSP hardware ready to receive whatever processing algorithm you want. In software like ProTools, you can call up plug-in effects from the mixer screen as inserts or auxiliaries. The effect climbs into a spare DSP chip, and you've got real-time processing without draining power from the CPU.

If you call up DSPider, you're actually calling up a plug-in host. In other words, you're slotting an empty box into your processing chain before filling it up with goodies. You can call up two main versions of DSPider – Reader, or Advanced. The Reader version is purely for loading in completed DSPider plug-ins and using them as you would any other plug-in. The Advanced version is where you get to go beneath the surface and start moving components about. There are variations on these two versions, depending on whether you want stereo or mono inputs and outputs

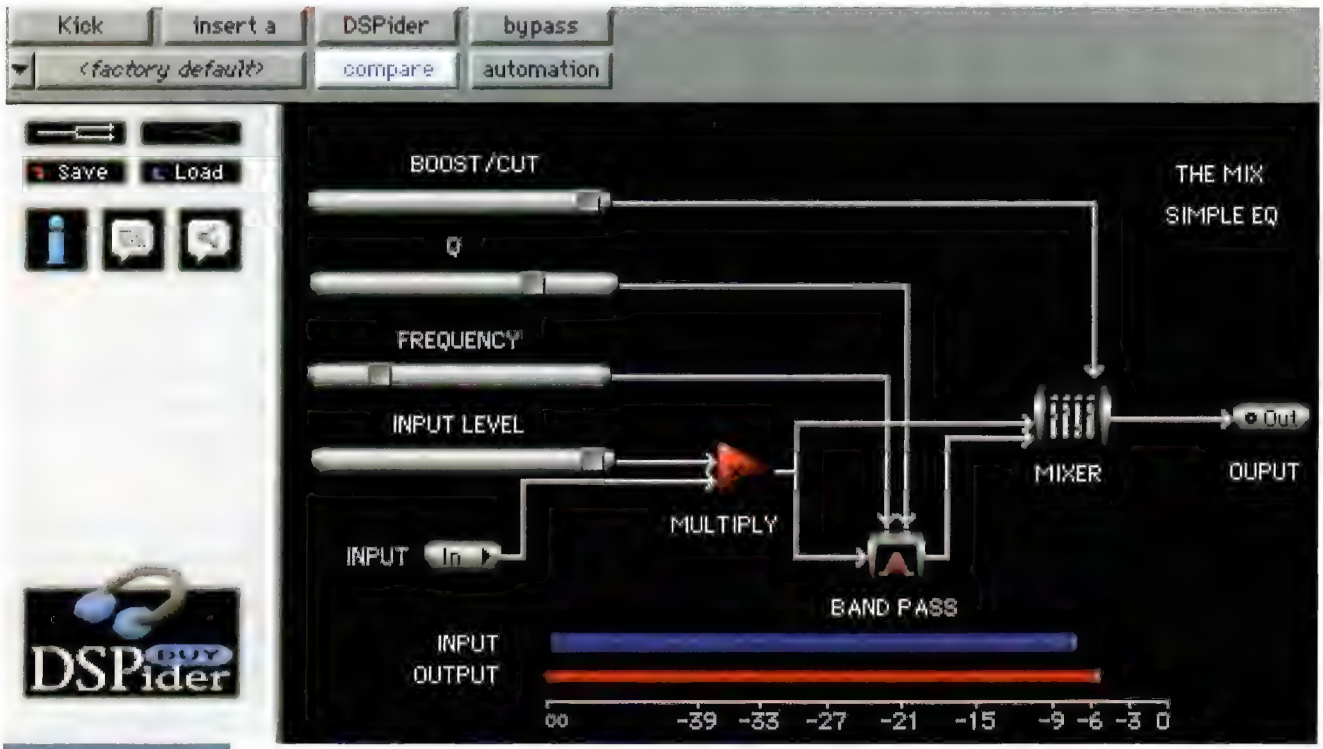
Wire up just about any plug-in you could wish for with the ingenious DSPider



The reader

Anybody who has used TDM plug-ins before will have no trouble with the Reader plug-in. It appears after you've inserted a DSPider plug-in block in a mixer channel, complete with graphic editing controls. Down the left-hand side are a few buttons for control; the usual ProTools menus take up the top section, and the rest of the plug-in window belongs to the Blackboard, a large blank space where your effect goes.

One of the clever little details in DSPider is the quick load feature. Normally you can save plug-in parameter



How to construct a simple EQ with the DSPider tool

settings anywhere you like using the save and load menus at the top of the screen, and that is true of DSPider as well. However, inside the system folder you also get a special folder for DSPider patches. Any patch in that folder becomes prey to the quick save function. Just hold the command and option keys down, then click on the blackboard and the patches that have been saved into the DSPider patches folder pop up in a menu for fast loading.

Below the save and load buttons are two strange little icons, otherwise known as 90° View, and Direct View. These affect the way patch chords between modules are displayed. As most completed DSPider plug-ins hide those patch chords these buttons are not too important until you get to the advanced mode.

The rest of the icons relate to patch information, balloon help, and talking help. The balloon help is very good – almost every aspect of DSPider has a text balloon with loads of information in. The talking help works with the Apple Speech Manager system… Mmm hmm.

Most plug-ins will have faders, meters, and sometimes buttons, and these are normally the core of the plug-in display. That's all there is to the Reader display – just load a patch and get on with it. Just browsing through the supplied patches revealed some particularly creative uses of DSPider, as well as some humourous labelling interface touches, such as the serial number scale in the Robot voice patch.

The writer

The same main window components appear when you select the DSPider advanced screen, with a couple of exceptions. The window is much bigger for one thing, which reveals the modular workings of the loaded patch. The left-hand side has a few additions as well, not least the large module palette from which you grab your raw ingredients. There's also Run and Edit mode selections. Run mode is for auditioning your patch and checking the visual aspects, and Edit is for dragging modules, patching them together, and adjusting their attributes. In this mode you get arrow (drag, drop, select), eraser, and patching cursor tools.

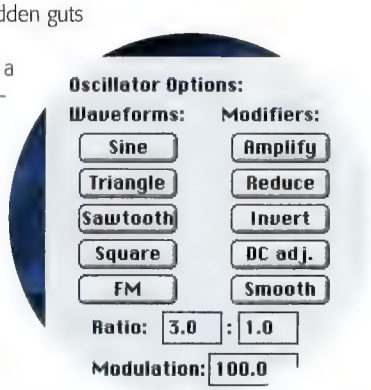
To build your own DSPider plug in, all you have to do is drag a module from the palette and patch it to another one. Some modules have internal parameters, like oscillator waveforms, fader ranges, and dynamic transfer functions. You get to these by either option-clicking or double-clicking on the module. After that, it's up to you. The blackboard is divided into two sections: one is the area that appears when your load the patch into the reader, the other is for the hidden guts of the plug-in.

The picture at the top of this page shows a very simple, single band parametric EQ plug-in made from DSPider modules. First the input is fed into a multiplier, along with a slider value. This creates your input volume control. The output of that is then split into two – one signal goes to the band-pass filter, and the other signal goes straight through to a mixer module. As the band-pass filter lets through only the selected band, you need to mix it back with the original signal, and by adjusting its relative level, you get cut and boost.

The band-pass filter has two control signals: cut-off frequency, and Q. These are patched to two faders for user control of those parameters. The mixer level of the original signal is set at -6dB, so

features

- Reader mode for normal plug-in use
- Advanced mode for patch editing
- 40 patchable modules
- Quickload function
- 200 patches supplied
- Locking function for secret patches
- Balloon help and talking help



Get stuck in
You can edit parameters for many of DSPider's modules

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On a theme

For those who aren't interested in building their own DSPider patches, the price tag of the full application might seem quite high. It actually isn't that bad when you consider the number and variety of plug ins you can end up with, but still it is over £1,000. And when you consider the other studio toys you can buy with that amount of wonga, you'd have to think carefully about it.

That's why it's good news that DUY have just released a cut-down version called ReDSPider. It isn't any less capable in the sound department, you just don't get the advanced plug-in that lets you create your own patches, and it only costs £410. It comes with over 200 patches on disk to get you started. Yes that's 200 different effects processors, which works out at around £2 per effect!

And to get more, you just need to get the updates, surf the net, and talk nicely to friends that have purchased the big version. There's even talk of DSPider gurus selling their patches onto ReDSPider users.

A lot of the new DSPider plug-ins coming through from DUY headquarters in Barcelona are ProTools|24 MIX-compatible, and so take advantage of the expanded DSP power, which enables more modules in a single patch. There's currently no ProTools NT version of DSPider, but it may be on the horizon.

In bundle land things are hotting up as well. DUY have decided to package ReDSPider with the rest of their plug-in range and call it the Global TDM Bundle. It costs £1,233. The other plug-ins in the bundle are Shape (FDWS-based enhancer), Wide (Stereo image adjust), Valve (Valve processing simulation), Max (level maximiser), and Tape (Vintage tape recorder emulation).

Also, DUY are currently developing SynthSpider, a TDM software synthesizer with OMS and FreeMIDI compatibility. We haven't got details yet, but look out for coverage in *The Mix*.

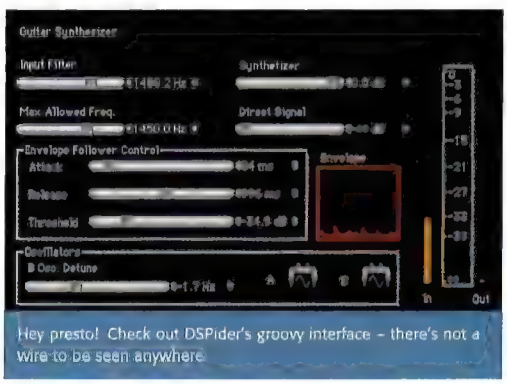
that when it's combined with the -6dB default on the filtered channel, the output should be the same as the input (no cut or boost). As soon as you move the cut/boost fader, the level of the filtered band changes relative to the original signal. Unfortunately, the more sophisticated plug-ins require a much more complicated patching arrangement.

The modules

It would be rather tedious to run through every module available in DSPider here, so we'll just stick to a few general categories. The visual and control stuff amounts to sliders (faders), text boxes (labels), scales (for the sliders), scopes (scrolling oscilloscopes), numeric readouts, and plasma meters. As an example, you can set the range, default, units, and tracking characteristics of the sliders. There's also a bunch of preset slider settings for various standard functions, like gain, LFO, and delays.

There's a number of operator modules that can perform mathematical operations on incoming signals, like 6.2dB cut and boost, multiplication, addition, and the Boolean OR, AND, and XOR functions. The generator modules consist of a general oscillator, a triangle generator, ramp generator, and a noise generator.

There are six different filter modules, a sample-and-hold, envelope follower, pitch tracker, 4-channel mixer, and a shaper module (with a graphic transfer function). The delays range from a single sample to 8,191 samples, and there's an early reflections chamber module for creating complex delays.



Hey presto! Check out DSPider's groovy interface – there's not a wire to be seen anywhere.

The number of modules you can have in a single DSPider patch is limited by the capacity of the DSP chip. Each patch uses up one complete chip, whatever its size. Patches created for a NuBus system cannot have as many modules as those created for a PCI system, for example. Also, there's a limit to the number of times certain modules can be used in a single patch. The limit varies, but the manual and online information give you the figures.

In use

Engulfed in the mechanics of creating your own patches, it's easy to forget about the sound. Well, be assured that the DSPider patches supplied with the package sound great, and what's more, there's so many of them! You get categories including chorus/flanging, compressors/expanders, delays, distortion, EQ, exciters, limiters/levellers, mastering, noise reduction, reverbs, sound effects, spatial effects, and synthesis.

The Experimental category includes such intriguing names as AM Radio (noise effect with a tuning slider to simulate radio whistle), Breathing-effect, and Shape-robotiser. The multi-effects include voice, bass and guitar processors. There's actually two reverb categories (short and long) covering chambers, diffusion types, gated reverbs, percussion reverbs, and reverse reverb. It takes quite a while to get through all of them and almost without exception, they're high-quality processes that would give any dedicated version a run for its money.

There's room for improvement, mainly in the advanced plug-in. It's sometimes difficult to see where patches are going, even with the two different views. Maybe there's a case for colouring patch cords. Building up patchable modules from other modules would be a good way to simplify things as well, then you could put one icon on-screen, instead of four or five. The manual is very detailed but doesn't have a tutorial. It would be nice to see couple of patch examples and a construction method that you could work through to get a feel for the edit mode.

Once you're into DSPider editing, you can just sit and think up processes – a vocoder, a dynamic EQ, a mutant reverb-delay-modulation thing... the sky's the limit. And once you get a DSPider patch into the ProTools session proper, you might think twice about buying a dedicated plug-in. If DSPider can do it, why would you? There's plenty of specialised plug-ins that DSPider can't copy though, and you wouldn't want to take up a whole DSP chip for a couple of bands of EQ, so it's not *quite* the only plug-in you'll ever need.

Verdict

The full DSPider plug-in, complete with the advanced mode, is an incredible price of software. It's like having a plug-in designer's tools at your fingertips. It's still over £1,000 though, and unless you're prepared to spend a bit of brain power on the intricacies of the modules and how effects processing actually works, than you won't get too much further than an EQ and a delay line. However, tweaking the modules isn't too difficult, and you can do a lot just by adding or taking away the odd module, rather like using an existing algorithm as the basis for your new one.

Thank DUY for ReDSPider then; the reader-only version that comes with over 200 ready-made patches for just over £400. That's amazing value, even if you can't tweak the modules like you can in DSPider, and you're at the mercy of those who are creating the patches for further updates to your effects library.

The complete package is brilliant, but with the release of ReDSPider it's only worthwhile if you want to get in and fiddle. Decide which one suits your studio, then get it – you won't be disappointed.

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TC Electronic M3000

Digital reverb

Price £1,761

For Exceptional presets ⊙ Loads of edit options and useful extras

Against EQ could be more flexible ⊙ Some multi-FX need more controls

Verdict Great reverbs, great presets. Get one

Reverb is one of those effects that has never stopped developing, from the mechanical spring methods of old to the DSP wonders of more recent times. And in these times, mention the word 'reverb' and two names immediately spring to mind: Lexicon, and TC Electronic. Both of these manufacturers have 'mothership' units that have acquired classic status, and both have found favour across both the music and post-production industries. A new reverb from TC Electronic then, is something to get excited about. And the M3000 reverb processor is here...

Overview

While the emphasis of the M3000 is on realistic reverb, there are a number of other algorithms from the world of standard multi-effects included, like pitch detune, compression, EQ and flanging. So you'd typically use one of its two effects engines for reverb, and the other for an extra effect. For this to work, the M3000 has a third virtual engine called a 'combined' effect, which is the combination of two effects settings in a single patch, with some global controls. A routing section determines the arrangement of the two engines inside the machine, and a bunch of extra facilities gives the M3000 frills like threshold-driven morphing between two engines, snapshot settings, and a tempo Tap button.

There are two levels of effects editing: Normal, and Expert; which one you use depends on how far into the depths of reverb you want to delve. If you want control of just the basic settings, like decay, mix, and levels, stick with the Normal edit mode; if you want full access to stuff like frequency band specific adjustments modulations, you have to go Expert.

Finally, the effects wizard can pick a selection of ideal presets for you, depending on your audio and application; and with 300 presets to choose from, that's quite a help.

Ins and outs

As you'd expect from TC Electronic, the M3000 is a fully 24-bit machine. The converters are 24-bit, the processing is 24-bit, though you can dither the output all the way down to 8-bit if you wish.

The digital I/O caters for just about everything. There's AES/EBU, coaxial S/PDIF, and optical ADAT and S/PDIF. If you go in with an ADAT connection, you get to choose the two channels for processing, though the rest of the channels stop there and don't come out the other end. For extra-tight digital audio, there's a word clock in for sample rates from 32kHz to 48kHz. Analogue I/O is on balanced XLR only.

So that you can manage this array of inputs and outputs without too much bother, all settings appear in the I/O Setup page, just a single button push away. There are three settings on the input side: the source, the channel (whether stereo, left, or right sources get through to the engines), and a mix toggle, which switches between full 100% mix (for standard auxiliary use), and whatever mix value is set for the engines. The output settings consist of clock type, dither choice, output choice, and copy status bit setting.

The M3000's internal routing gives you the choice of six engine configurations, all variations on how the engines connect and interact: Serial, Parallel, Dual input, Dual mono, Linked, and Preset glide. Serial and parallel are obvious. The Dual routings both feed the left input to engine one and the right input to engine two. With Dual Input, the stereo outputs of the two engines are mixed into one stereo output, and with Dual Mono, the outputs connect in the same way as the inputs, effectively constructing two mono effects processors. The Linked

CD info

track 09
Vocals, guitars and drums are given the M3000 treatment. Check it out.

At your service: The digital I/O caters for just about everything: AES/EBU, coaxial S/PDIF, and optical ADAT and S/PDIF. Whew!

words **Paul Mac** images **Simon Dod**

The whole concept of reverb just keeps on movin' on. But will this version win *your* heart?

routing runs the two engines as a true stereo pair made from two identical mono effects, and the Preset Glide routing lets you crossfade between two single-engine presets.

You have to keep an eye on the routing in the M3000 as loading a combined preset will change the original routing to whatever the new preset routing is. Thankfully, a large box in the display tells you when the routing changes.

Extras

Before we get onto the algorithms and the editing facilities, we should take a look at the extras that come with the M3000. First, the Reverb Wizard. It sounds magical, but in actual fact it seems to work just like a database. You enter certain criteria and the M3000 suggests presets that might be suitable. For example, if you choose music as your application, vocals as your source, and a medium-sized space, you get five preset combinations and 18 single engine options that you can audition in the Wizard screen. The number of preset options varies, all the way down to none for 'outdoors post' combination settings.

Once you have your algorithm in place, you might want to compare it with others. This is where the snapshot recall comes in. You can store your current settings in one of four snapshot buttons and recall them almost instantly with one button push.

The Tap function is increasingly common in effects units, but this version goes a little further than some others. For example, if you wanted to Tap the timing of a delay you just hit the Tap button in time with the music tempo. When you do this, the tempo screen appears. It tells you what the BPM is, what engines are responding to the tap, and the tempo subdivision. That last one is just a tempo divider with values from 1/1 down to 1/16 and 1/16T (triplet). Lastly, holding down the tap button for three seconds forces the tap tempo to the same value as an incoming MIDI clock.

The morphing function in the M3000 is threshold-driven. That is, you can set up a signal level as the point at which one engine disappears and the other one takes over. It's a gradual crossfade around that threshold, which very useful for taking care of intro-to-song start transitions, for example.

The reverbs

There are actually thirteen main algorithms in the M3000, though four of those are reverbs. The biggy is VSS Reverb. This algorithm is huge. In Expert mode, there's no less than 33 parameters divided into groups for overall parameters, early reflections, reverb tail, reverb modulation, and space modulation. It's a good job TC Electronic start you off with a bunch »

specifications

Analogue I/O
Balanced XLR

Digital I/O
ADAT and S/PDIF optical, S/PDIf (RCA), AES/EBU

Conversion
24-bit
128x oversampling

Channels 2

Effects engines 2

Reverb algorithms 4

Multi-FX algorithms
11

Factory and User presets
250 single
50 combined

Frequency response
10Hz-20kHz, +0/-0.5dB (analogue outputs)

And the rest...

Reverbs dominate the M3000, but the other effects give the second engine its reason for living. Here's a rundown:

The delay has a pool of up to 1350mS with a hi-cut filter before the delay, and both hi-cut and lo-cut filters in the feedback path, which can make for some interesting or natural decay fades. The pitch algorithm has six voices, each with adjustable level, ±1200 pitch range, and panning. This is really for intricate chorus effects more than anything, as there are no musical parameters, but the panning aspect has a lot of potential.

There is also a traditional chorus algorithm with depth, delay, golden ratio on/off, phase reverse, and an LFO (with phase offset). When it's on, the Golden ratio function maintains that ratio between the chorus speed and depth. The flanger has pretty much the same controls, with the exception of normal feedback and cross feedback values.

The EQ algorithm has five bands – two shelving and three bells. There's discrete selections for bandwidth, rather than a continuously variable control. The tremolo and phaser algorithms are pretty standard, except for some cool extra controls over the LFO in the tremolo, and filter order selections in the phaser.

The two main dynamics algorithms are expander/gate, and compressor, and both are quite simple, with threshold, ratio, attack, release, and output level parameters. There's nothing flashy, just straightforward dynamics control.

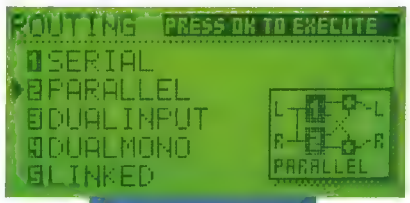
The de-esser is actually a little bit more than that, thanks to a flexible filter in the sidechain. You can set it as a bell, hi-shelf, or lo shelf and adjust the centre frequency, so you can feasibly use it as a de-esser, low frequency limiter, a dynamic band filter and so on. It also has a Relative mode, which sets the threshold relative to the average signal level, so you can de-ess dynamic material without riding the threshold.

of presets to base your ideas on.

There's a second VSS algorithm: VSS Gate. As the name suggests, it's a reverb with a gate in it, but far from being just a gated reverb algorithm, you can choose to gate decay, the overall level, or both of 'em.

Reverb algorithm No.3 is C.O.R.E, a program from the M2000 unit that TC recommend for short-to-medium decay times. There's far fewer parameters to fiddle with, so there's no Expert mode. The parameters are divided into two categories: overall, and reflections. In the reflections section you can choose room shape and size, as well as stuff like the stereo width of the reverb tail, and hi/lo decay and crossover.

The fourth reverb is REV-3, again with no expert mode, and this time with no explicit room descriptions. Here you set diffusion characteristics, high/mid/low decays and crossovers, and modulation of the reverb tail.

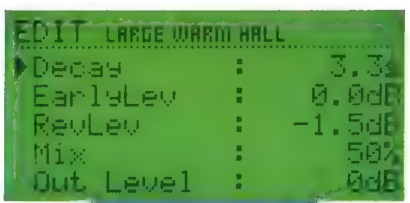


Connect the internal effects engines in (count 'em) six different ways

In use

It's not difficult to hear the quality of the M3000 reverbs – it's obvious from the moment you load a preset. We started off with a dry vocal and headed straight to the Reverb Wizard for inspiration. The first option, Giant Space, had a rather distracting delay, but with that in bypass things started to get better.

The first completely outstanding preset was Comp Reverb, which unsurprisingly, is a vocal compressor in series with a 'soft room' reverb. Every attack in the vocal came to the front without playing havoc with level, and for punchy vocals it's hardly necessary to go any further through the presets. It's also a reassurance that despite the compression algorithm's simplicity, it is still a top-notch process.



Normal mode: for those who don't want to dive too deep into reverb waters

The 'Big Soft Room' algorithm was incredibly natural. That was true for many of the vocal suggestions, and accounting for taste, you'd have to say that every one was useable; many were exceptional.

Editing wasn't as traumatic as the long list of parameters would suggest; most are self explanatory, a fair few are very subtle. In the main VSS Reverb it is helpful to start by auditioning early reflections and reverb tails separately, and this you can do, as both have their own level controls. The early reflection types have a big effect on the overall sound. The Church type sounded particularly natural, though to certain extent this kind of judgement depends on the material you're processing, so the others will probably shine in their own turn with other sources.

One of the more notable sections in the edit list is the modulation section. The manual isn't particularly clear about the nature of these. The reverb modulation does have a thickening harmonic effect and seems to affect the stability of the reverb tail, but on the settings we tried, the space modulation was by far the most impressive. Without getting all psycho-acoustic on you, a bit of space modulation actually opens up the rear and centre fields, and may even expand the left and right spaces. Experimentation is recommended with this parameter.

Without a doubt, the most impressive reverbs in the M3000 are the plates. The Wizard recommendations sit so well with a snare that you could forget you'd put reverb on and think that the room you recorded it in is doing all the work. There are enough plate presets to require only fine-tuning from the user.

It's a shame that the M3000 only has 25 of its 250 presets set up with other effects. Yes, it is a reverb unit, but the other effects are high-quality too. The Chorus, for example, is very clear and puts a nice amount of girth into audio.

The only criticisms here regard a couple of facilities. It would be nice to be able to turn off the voices in the pitch algorithm one at a time. You have to turn the level down at the moment, which is a bit of a faff. And the EQ isn't very detailed. It sounds nice, but with only three discrete Q settings in the parametrics, it might leave you wanting.

As for the general operation, there is nothing terrible about the M3000; you get around it easily enough, though there are a few little things that could be improved. There's no quick way, for example, to get from Preset 1 to Preset 250: the selection isn't circular so you give to wind all the way through. The index function is useful; you hold a recall button down and the display shows a list of preset types (halls, rooms, plates, and so on) with their preset index range, but you can't shortcut to that range. To end on a happy note, the morphing is way cool, and the minor faults above pale in comparison to the quality of the reverbs.

Verdict

It's good to hear the age-old reverb effect is still moving forward. Just when you think you've got a great one, an even better one comes along. There are a few presets on the M3000 that you wouldn't give your enemy for Christmas, but these are rare, and the amount of detail in the editing section, especially of the VSS algorithms, will keep perfectionists in a room of their own for a good long while.

Just armed with the plates, a couple of the rooms, and the compression/reverb combinations, the M3000 will win many an engineer's heart, and secure a place in the studio for some time to come. Indeed, a classic in the making.

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E-MU Proteus 2000

Sound module

Price £749

For Beautiful sounds ⊙ Allows you to create multi set-ups ⊙ S/PDIF output

Against Screen is bit small

Verdict If it's dynamic energy and serious synth inspiration you're after, then feast your eyes on this beast

The nearest thing in the dictionary to the word 'Proteus' happens to be 'Protea'. Although the people at E-MU were undoubtedly thinking of something completely different, the description of Protea is very akin to this rather nifty little sound module. It says: "Flowers with coloured bracts arranged in showy heads" – a nice description that suits this instrument and all its predecessors very well, as each one is full of beautiful coloured sounds arranged in organised banks.

Another reason why the plant connection is appropriate is down to the 'nature' inside the beast. 'Natural' has always been a description applied to the Proteus range of fat strings, crisp pianos and guitars. Their versatility is also a strong point, because if you want real you can have it, and if it's weird you're after, then these machines can change through the seasons faster than Vivaldi, with morphing and twist textures at the touch of a button. Yes, E-MU certainly have a well-planted garden that can cater for anyone.

Overview

As with previous models, the 2000 series is a single unit module that comes with rack fixings if you want to mount the machine. But it's rather nice to have it sit on top of your keyboard for easy access. It's not heavy and you'll really want to have a good play with such a unit at close quarters.

The front panel is laid out like many of the previous models, so it will remain a familiar user interface to some people. To those who are new to Proteus, it is really easy, as there are so few controls. There's the usual dial wheel for selecting banks of sounds, MIDI channels and so on, a fantastic audition button that not only plays you the selected patch but actually plays you a piece of music, master and edit buttons for going into the heart of the unit and changing all the usual parameters, and a row of real-time controllers that allow you to do some absolutely outrageous stuff with sound. At the basic level (Quick-edit), they edit some of the more common parameters in the preset, in case you don't want to go into full-blown edit mode. You can also get into 'patch cords' and use them as controllers for pretty much any parameter. For the more adventurous, there's a detailed edit mode for digging into the depths of the sounds.

The rear of the unit is also a eye-opener, with the usual MIDI in, out and thru, plus a separate MIDI B input, allowing up to 32 MIDI channels to be used. The output stage is very comprehensive, with six outputs and the added bonus of S/PDIF. This carries the same output as the main left and right outs, so you can hook it up to a digital FX unit or whatever you fancy. The outputs that are named SUB 1 and 2 also double up as effects sends and returns in order to further process selected instruments and return them to the main mix (nice touch E-MU). All of this is, unfortunately, viewed through a rather small LED screen.

In use

This machine has got the lot. For instant gratification, start by checking out some the sounds with the audition button. It is so nice to hear the patches in some kind of context. It's funny though, how the demo songs on synths are always crap. Sorry E-MU, but with kit like this you don't expect demos to sound cheese...

Anyway, leaving that behind, it's time to get down to the nitty gritty. The patches are laid out in a very nice fashion, rather than in some mass hodgepodge like some modules. E-MU have categorised presets according to types of sound, so you have basses, brass, guitars, simple waveforms, and so on. Throughout the banks there are various different arpeggiators turned on and off, and different effects

CD info

track 05
Hear bass, guitar, and more from the Proteus, with real-time parameter control

Shake it all about
The outputs on the Proteus are programmable, and two (FX returns) can even be inputs

words **Seb Pecchia** images **Gavin Roberts**

A composer's dream, with beautiful sounds and a top navigation system

and envelopes, which makes finding something useful very easy.

There are 512 user presets and four slots for 16Mb or 32Mb ROM boards, One of these is taken up with the standard issue 32Mb preset board, which contains the 1,024 factory presets. The rest you can fill with E-MU preset cards, or if you own an Ultra series sampler, an authored ROM board. In other words, you can produce your own sounds and programs on, for example, the E4XT Ultra that we reviewed last month, then 'burn' a ROM board with those sounds and stick 'em in your Proteus. That will be possible with EOS version 4.2, available any time now.

Imminent ROM boards include a 32Mb piano, 32Mb GM set, Symphony, and Millennium Synths, though there are plenty more in development, including some authored by famous third-parties that have to remain a secret until they're confirmed. We'll keep you updated on those in the news pages.

In the real-time control department, you have the capability to change LFO (low frequency oscillators) speed, filter frequency, attack time and modulation, not to mention the array of stunning effects. Even velocity, sustain and dynamics are controllable. This allows the user to do a whole variety of things to preset sounds, and the results are great, especially if you spend some time at it.

You also have the capability to create multi menus, which allows you to save and restore multiple parameters that you might associate with a particular song. It's basically a snapshot of the current MIDI configuration of the module, and it's amazing how much easier life becomes when attention is paid to detail. The manual is very informative, and gives beginners every opportunity to learn some very detailed stuff. The programming guide is especially good. It's a step-by-step lesson in changing layers of sound, adding FX, editing, saving, restoring and generally having a load of fun with a very creative tool.

Verdict

The samples on-board are looped to perfection and rich in harmonic texture. The capability to store thousands of sounds and to whip your way through the new sound navigation system makes composing with it a real dream, and of course, the real power unleashes itself when you begin to synthesize your own sounds. The 4-layer synthesizer voices make it easy to be creative. Layers can be switched and crossfaded using key position, velocity, real-time control and any modulation source, and the 24-bit effects and millions of other great details make this a must for the serious composer.

More from: Emu-Ensoniq, Pinewood Studios, Pinewood Road, Iver, Bucks, SL0 0NH
Tel: 01753 630808 Fax: 01753 652040
Web: www.emu-ensoniq.com

specifications

Inputs
4 analogue inputs

Outputs
Main stereo out (L/R), sub-mix outs (L/R) x2, digital out (S/PDIF)

Polyphony
128 voices

ROM
32 Mb (expandable to 128 Mb)

ROM Presets
1,024 (per 32Mb ROM)

User presets
512

Multitimbrality
32 parts

MIDI
A (16-channel, in, out, thru), B (16-channel, in, thru)

Filters
6th order (17 types)

Effects engine
24-bit

HHB CDR850

Professional compact disc recorder

Price £899

For Full set of features ⊙ Easy to operate

Against Non removable rack-mounting ears

Verdict An excellent CD recorder. Very well-specified for the price

The Mix last looked at an HHB CD recorder in our CD-R roundup in issue 56. The machine in question was the £1,149 CDR800 – basically the same machine as the Fostex CR200 – which has sold in large numbers worldwide. The CDR800 is substantially-built and is very definitely a professional machine, with its AES/EBU input and 'custom' settings. However, it might seem to be a little expensive compared to something like the Marantz CDR630 which, unlike the CDR800, allows recording to CD-RW discs as well as CD-R.

So HHB have now introduced the new CDR850 in the sub £1,000 price bracket and equipped it with all the necessary features, including recording to CD-RW discs and a full range of inputs and outputs, including some that are lacking in some of its competitors.

Overview

Built in Japan to HHB's specifications, the CDR850 is a 2U rack-mount with integral rack ears. The unit takes up plenty of real estate to the rear, with a front-to-back depth of over 14" with nothing plugged in. The front panel is clear and uncluttered, with the controls logically laid out, and has an easily-read display. A small battery-powered handheld remote is supplied, but provision is made via an 8-pin port on the rear panel for a parallel remote to be used if desired.

Back panel connections start with the standard IEC mains socket, binding post for signal grounding and the parallel remote socket. Analogue ins and outs are available on both phonos and balanced XLRs, with the operating level of the XLRs switchable between + 4 and -10 dB on input via an onscreen menu. Digital input is provided for with an AES/EBU socket and optical and coaxial S/PDIF outputs are also provided.

In use

To get started with the CDR850, the first step is to stick a blank CD in the centrally-located tray. The machine takes a few seconds to automatically sense what type of disc (CD, CD-R, CD-RW) is in the bay and whether it is a new disc or has already been recorded on. The recording source is set by the input selector, a 6-way rotary knob on the right hand side of the control panel. The six options available include three different digital inputs and three different analogue inputs: line input (phonos) and XLR I/O at either +4 or -8 dBu.

When recording via the analogue inputs, the recording level is set by a dual concentric knob, with the input signal displayed on the LED meter when the machine is in record-ready mode.

Five recording modes are available: four for recording through the digital inputs and one for the analogue inputs. The easiest of these is the automatic digital source synchro recording mode, carried out through the optical or coaxial digital inputs, where the unit will record directly from a CD, DAT, MiniDisc or Digital Compact Cassette with recording initiated when the source starts to play.

This automatic mode can take two forms: one-track and all-track recording. One-track recording, when recording stops after one track, is intended for making compilations of tracks from different sources. All-track recording, where all tracks from the source are recorded and recording automatically stops after the last track, is very useful for making a complete CD copy. Both modes are a cinch to operate.

CD-Rs, once recorded, have to be finalised before they can be played on a standard CD player. The finalising process, which takes about four minutes, writes the table of contents (TOC), and is initiated in the third digital recording mode, which will record a whole digital source and finalise it in one single process.

The other two recording modes are manual modes. Recording is carried out either via the digital or analogue inputs, by using the standard front panel array of record, play, pause and stop buttons. Once recording is in progress, a large red LED lights above the CD tray.

On the panel...
A whole range of analogue and digital ins and outs are catered for: phono, XLR, AES/EBU and optical and coaxial S/PDIF

words **Trevor Curwen** images **Gavin Roberts**

If HHB's CDR800 was a bit out of reach, check out the CDR850: top performance and a wealth of features

Track start IDs for the recorded material can either be written automatically by the machine using the auto track function, or entered manually by pressing a front panel button at the appropriate juncture. In Auto Track mode with digital synchro recording, the unit will increment the track number every time an ID or CD track flag is detected. When recording from an analogue source, or through the AES/EBU input, Auto Track considers silent passages of longer than two seconds to mark the area between two tracks and consequently writes a new track number. A threshold for what constitutes silence in this context can be set at one of six programmable levels.

Another function implemented during digital synchro recording is the Auto Stop Delay. In default mode, record pause is automatically activated after ten seconds silence and when copying a CD, this usually results in the total time in the copy's TOC (table of contents) being nine seconds longer than the original. Auto Stop mode can, however, be turned off, allowing manual stopping of the recording process at the required point, or can be set to zero seconds, which, when recording individual tracks (assuming there are no silent gaps in them) from DAT, saves the worry of having to hit the stop key as soon as the track stops.

Various other options are available with the CDR850, including recording blank passages and recording fade-ins and fade-outs with a choice of durations of six, nine, 12 or 18 seconds. For CD-RW discs a range of erasing options are available.

The machine features sample rate conversion, allowing recording from sources with sampling frequencies other than the 44.1kHz CD standard, although this can be turned off internally if required for occasions when the digital input signal is 44.1KHz.

Verdict

A CD recorder is an asset for any studio and a standalone unit like this is, in many ways, more convenient than a SCSI-based CD writer. The HHB CDR850 offers excellent performance, plus a comprehensive set of all the features that are currently available on CD recorders in the sub £1,000 bracket. It's easy to use and it deserves to do well.

With a retail price of £899, the CDR850 does seem to be reasonably-priced. It's the same price as the new Tascam CD-RW5000 reviewed in issue 60, and considerably less than the £1,149 CDR800. But we can't help thinking that if it was priced closer to £700 than £900, it would fly off the shelves.

More from: HHB Communications, 73-75 Scrubs Lane, London, NW10 6QU Tel: 0181 962 5000 Fax: 0181 962 5050

specifications

Analogue I/O
XLR, phono

Digital I/O
optical, coaxial S/PDIF, AES/EBU (input only)

Playback media
CD, CD-R, CD-RW

Record media
CD-R, CD-RW

Input sampling rates
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Frequency response
2 Hz to 20kHz ±1dB

S/N playback
109dB

S/N analogue recording
92dB

S/N digital recording
108dB

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new releases

All the major album releases of the month reviewed and rated, our classic sessions spot *Milestones*, plus who's in the studio doing what with whom in *Recording In Progress*...

recording in progress

Suede are at Eden studios finishing their new album with a little help from producer Steve Osborne

Whitfield Street is current home to Another Level who are mixing tracks with producer TQ

Suede's current home

Happy Mondays are working on a new single at Hook End with Paul Oakenfold and Steve Osborne producing

Adrian Sherwood and Skip McDonald are producing Sinead O'Connor's new album at RAK studios

Producer Robin Guthrie is working on a new album with Yu-Ra

Dave Bascombe is mixing new tracks for Bryan Adams at Eden studios

Dave Bascombe

GENE
REVELATIONS
(POLYDOR)

Is it just me, or is Martin Rossiter sounding more and more like Mark Hollis with each consecutive Gene album? That's cool, though; what an influence to emulate so well. This is out-and-out jangly pop, carrying on from where '97s *Drawn To The Deep End* left off so eloquently. 'As Good As It Gets' has summer hit single written all over it and, with its cleverly quirky arrangements, it's a perfect slice of pop. It's all quintessentially English, too, with smatterings of Morrissey, both musically (notably 'In Love With Love'), and lyrically (too numerous to list). Follow up single 'Fill Her Up' is a witty ode to alcohol-inspired confidence. Replete with Irish folky chants and slickly captivating guitar licks and trumpet solo, it's a hazy masterpiece. Gene have always stuck to their guns, and, once again, they're firing on all cylinders. • *Nick Serre*

Producer: Hugh Jones

Engineer: Roland Herrington

Studio: Rockfield/Whitfield Street

Verdict: Take a dip in the Gene pool.....8/10

PAUL OAKENFOLD
RESIDENT
(CREAM/VIRGIN)

'Two Years Of Oakenfold At Cream.' Sounds like a treat, and it most certainly is. Of his 82 Cream appearances, Paul has selected elements of his best sets, and condensed the ideology down to a pumping double CD set admirably. If you've ever witnessed a Cream night, you'll recognise that the collection captures the atmosphere perfectly. Crowd noise is included, and while this a brave move that may irritate some, it conjures the perfect image. He's apparently spun over 8,000 records at Cream, so it's no mean feat to distil that. But he has. Brilliantly. Witness the way Ascension's sublime 'Someone' segues into Brainbug's 'Nightmare' and you'll realise why Oakenfold is the first DJ to ever get into *The Guinness Book Of Records*. There is little to touch the mastery of Paul Oakenfold, and *Resident* is testament to that. • *Nick Serre*

Producer: Paul Oakenfold

Engineer: n/a

Studio: Various

Verdict: Top DJ set.....8/10

DEUS
THE IDEAL CRASH
(ISLAND)

Power is a word that dEUS are well familiar with. It is something that oozed from every pore of their two previous albums, and *The Ideal Crash* continues the tradition. 'Put The Freaks Up Front' gives a definite nod to the late great Kurt Cobain, but introduces dEUS' melodic sensibilities to boot. Simultaneously angst-ridden and delicate, *The Ideal Crash* is a bittersweet opus with a distinctly commercial edge. There's an obvious Velvet Underground ethos at work, too – no great surprise, really, since they were vocalist/guitarist Tom Barman's early influence. But there's a new, raw energy here too, with 'One Advice, Space' eerily epitomising the darker side of this. dEUS may not be the most accessible outfit of Belgian mavericks around, but take some time to get into their way of thinking and you *will* come out smiling. Oh yes indeed. • *Nick Serre*

Producer: dEUS

Engineer: Various

Studio: Various

Verdict: Beautifully sinister.....7/10

WEED
HARD TO KILL
(NETTWERK)

On the face of it, this is a pretty strange combination: a Romanian couple churning out stuff that has its roots in US and UK techno, combined with the discipline of trip hop and slightly acidic pop. But, here's the rub – it manifests itself perfectly in a debut album that deserves to achieve major recognition from many a camp. 'Hard To Kill' combines Portishead-esque guitars and drums (all trés lo-fi) with singer Cristina's dulcet tones, which, in part, are akin to former Sneaker Pimps' chanteuse Kelli Dayton; whispery, yet somehow macabre. There's a certain unease permeating the whole offering, and the weird thing is that it is all completely accessible. Regardless of the fact that 'Fly Together' (as an example) combines treated tablas with ominous synths, there's an underlying passionate ethos at work. And that pretty much sums up Weed. • *Nick Serre*

Producer: Dreamdoktor

Engineer: Various

Studio: Outersanctum, Canada

Verdict: Roll me another.....8/10

LOOP GURU
FOUNTAINS OF PARADISE
(NORTH SOUTH)

In a way, this is a reissue. Much of the material here was available at Loop Guru's early gigs, in an admittedly different guise. So what a relief it is to have the trance-fusion of their earlier forays encapsulated within this esoteric offering. Derivative dance textures collide with the pseudo-psychedelic (they're well Glastonbury'd up, ya know) to form a hypnotic, dare I say it, concept album that captures their madcap style to perfection. This is not an easy listen if you are not in the frame of mind to be transported, within a matter of seconds, from mesmerising grooves into hectic wildness. But that is not the point of *Fountains Of Paradise*, by any stretch. Loop Guru have entered the commercial arena with numerous remixes, and this shows a brave return to form. Take some time, and get looped up. • *Nick Serre*

Producer: Loop Guru

Engineer: Various

Studio: The Shrine

Verdict: Trancey dancey..7/10

WILLIAM ORBIT
STRANGE CARGO
(IRS)

Although originally recorded between 1984 and 1987, and released in that same year, *Strange Cargo* mysteriously disappeared. Until now. Orbit is well renowned for his production credits, and it comes as a great relief to witness the roots that grew into his current-day reputation. *Strange Cargo* is an effervescent blend of funk and dance nuances combined with guitar antics to die for, and fusion elements. At times ('Fire And Mercy'), it smacks of over-indulgence. No, scrub that, it smacks of someone with so many production ideas that they simply cannot be honed into one track. You could accuse *Strange Cargo* of being clever for the sake of it (a bit like Marcus Miller's solo efforts), but if you look at it from a musicians' musician point of view, it aptly demonstrates why William Orbit has become such a pioneering producer. • *Nick Serre*

Producer: William Orbit

Engineer: William Orbit

Studio: Guerrilla, London

Verdict: Succinct history lesson...8/10

UNDERWORLD
BEAUCOUP FISH
(V2)

Forget winter, spring is in the air, and the new, third album from Underworld proves it. Like the lighter, sunnier side of Massive Attack, but still retaining all their cred, Underworld lift you up and slap a grin on your face. Thankfully no crass 'anthems' grace *Beaucoup Fish*, but funky rhythms, electro synths and vocals that fall somewhere between 3D and Matt Johnson from The The, do. 'Cups' takes on a relaxed, funky groove, and at over 11 chilled -out minutes, there's really no hurry. 'Jumbo' is reminiscent of New Order, with understated vocals, new romantic-style synths and soft orchestral backing vocals – perfect. If you're expecting anything like 'Born Slippy', then 'Kittens' comes close, but betters it. If *Beaucoup Fish* is the soundtrack to your summer of '99 then it's going to be a good one! • *Gabrielle Stackpool*

Producer: Rick Smith

Engineer: Rick Smith, Tom Morrison, Mike Nielsen

Studio: LemonWorld

Verdict: Shiny happy people..8/10

LIZ HORSMAN
HEAVY HIGH
(FOOD)

It would be too simplistic to draw a comparison to her contemporaries like PJ Harvey, Tori Amos *et al*, because Liz Horsman seems to have numerous other influences under her belt. Nirvana and the whole '80s indie scene springs to mind, as do a host of earlier nuances like The Beatles and Dylan. This lass knows her history (if that's not a contradiction in terms). Anyway, comparisons are largely academic, because Liz has an enviable writing and playing pedigree. Tracks like 'Just Thinking' and 'So Cool' belie her tender years, and leave you with the feeling that if this is her debut, then she's destined for even bigger and better things in the very near future. Phil Thornalley is a perfect writing and production partner, while Stephen Street is in his element as right-hand-man. A great collection. • *Nick Serre*

Producer: Phil Thornalley/Stephen Street

Engineer: Stephen Street/various

Studio: Various

Verdict: Singer/songwriter with serious clout..............9/10

recording in progress

Stephen Hague is producing Extra Very's new album at his own Barn studio in New York

The Cure are working on their new album at RAK with producer Paul Corkett

The Johnsons are in the mixing stages of their new album with producer Phil Bodger at Whitfield Street

Smashing Pumpkins are at Chicago studios putting the finishing touches to a new album with producer Flood

Howie B is producing new tracks for Skin & Robbie at Whitfield Street

Submarine are working on an album with producer Kevin Paine at Westpoint

Radiohead are working on their new album at a secret location with producer Nigel Godrich

Radiohead

MILESTONES

PARLIAMENT
OSMIUM
(SEQUEL)

[illegible] soulboys [illegible] stify', in 1967, as The Parliaments).

[illegible] list, frontman, bassist and songsmith, Clinton was already a near-leg[illegible] in the Detroit area. The last [illegible] d to blend the [illegible] – [illegible] and the driving, revolutionary rock of white [illegible]

[illegible] themselves are all pretty strong musically [illegible] like your proverbial demon, and 'Moonshine Heather' is chocka with Hammond strut, while 'Oh Lord, Why Lord' shows GC in semi-serious, questioning mode. 'Funky Woman' reve[illegible] 'interest' in girls – and his [illegible] too, but is far more interesting for [illegible] time. In the [illegible] and *Moth*[illegible] as well as the [illegible] the mo[illegible] ever worn by [illegible] is the way that it [illegible] funky formula that [illegible] groove. • *Phil Strongman*

Producer: [illegible]

Engineer: [illegible]

Studio: [illegible]

Asian Dub Foundation realised the importance of a manager early on

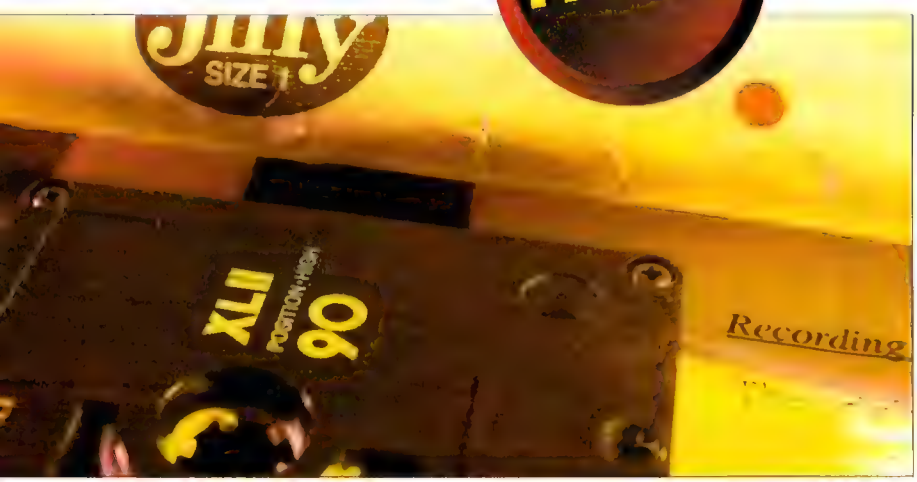
Inside A&R

words **Nick Serre** images **Gavin Roberts**

We've taken you step-by-step through the process of getting a record deal. Now it's time for the A&R gurus to tell us the decisions behind their signings – and for the artists to relate their uncut experiences of being signed...

The Egg: "It's better to create an industry buzz than send out endless ignored demos"

PART 2



Last month, we went through the rigmarole of getting your demo heard by those elusive A&R types. Let's hope you followed our guidelines and can now compare your experiences with ones about to be related from artists and A&R folk who actually make (and spend) money in the business of making and selling music. It's a strange phenomenon, but unsigned acts tend to misunderstand, or even despise A&R, while signed acts, for seemingly obvious reasons, hold them in great esteem. The secret appears to be striking up communication with the right people, and creating a buzz. The following examples are testament to that.

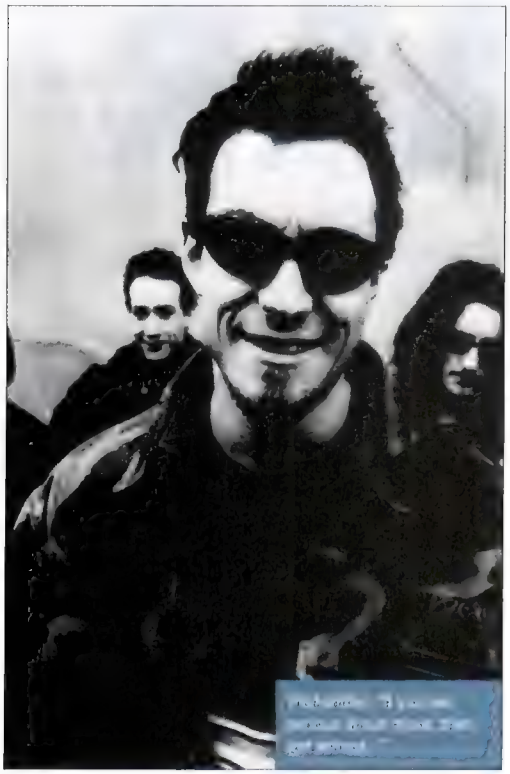
Luke Cunningham signed Dust Junkys while at Polydor A&R: "My first true love is the whole hip hop and electro area. There was a fair bit of that with the Dust Junkys, and that was what drew me to them initially. Combine that with the fact that they played well and looked good, and had half a dozen good-quality songs on their demo and I was sold."

And on how he eventually signed them, he elaborates: "Their manager was a contact of mine in Manchester anyway, so I used to go and hang out with them, and we had a lot of the same sort of attitude, and their material captured the stuff I was into, with a dose of Manchester thrown in. They were approached by about half a dozen companies, but I had been there since the beginning, so we got the signing.

Simon Aldridge at Columbia A&R has signed some huge pop acts in his time: "I started at ZTT records/Perfect Songs Music Publishing, and was responsible for discovering Seal, Gabrielle and Mark Morrison, who both eventually signed to the publishing company. Simon moved to Columbia in February 1997 and is currently looking after Roachford, Steve Balsamo ("a new male solo singer with an absolute gift of a voice") and Hepburn ("a new 4-piece 'girl band' with guitars"). On the subject of what he looks for in a potential signing, Simon is adamant: "Talent, music, and attitude in that order. I guess the best answer to any question like that is that we sign each artist on the basis of exceptional talent in whichever area of music they are working in and look for stars. It is the fact that you are actively searching, and keeping an open mind that brings the quality and originality. A great voice will always do it for me though!"

Bring on the band

From a band's point of view, the selection of a record company to hook up with is a major consideration. Pitchshifter's J.S. Clayden is well »



"You have got to look like you know what the hell you are doing. Even if you are the next Spice Girls, or have some amazing new sound, if you stroll in there like some rank amateur you are going to get ripped off…"
Pitchshifter's J.S. Clayden

aware of how to capture A&R attention, and highlights the importance of knowing what you are about. "You have got to look like you know what the hell you are doing. Even if you are the next Spice Girls, or have some amazing new sound, if you stroll in there like some rank amateur you are going to get ripped off.

"If you are serious about music then get serious. My advice for bands is not to spend a lot of time doing shitty small gigs; they're fun but they get you nowhere. Spend your time and money getting the best three tunes you have recorded at a local reputable studio and put onto CD. Then you have something to tout around." For pinpointing A&R individuals, he proffers the advice: "For record companies, find out the name of the person at that company who deals with your kind of music. Don't just send off your tunes; research the company a little and your CD will be more readily accepted. If you have the money use a lawyer and/or a manager who deals with music, it will save to hell in the future. Good luck!"

Gary Numan's huge popularity in the late '70s and early '80s was not a case of overnight success either. "My first experience with A&R people was fairly typical. In 1978 I was timidly touting around a tape of my band Tubeway Army, unsure of myself and easily intimidated by grand reception rooms and secretaries with attitude," he explains. "One A&R man threw my tape out of his office door and told me to 'Fuck off and take that shit with you' or something along those lines. Others told me to give up, go home, or be a lorry driver.

"No-one was enthusiastic," he recalls. "No-one was kind, no-one was positive". But Gary was too dedicated to be fazed, and soon signed to Beggars Banquet. "I was eventually signed when my bass player went into a second hand record store to sell some of his old albums. Whilst chatting to the man behind the counter he found out that the owners of the shop had just started a small label of their own called Beggars Banquet. He left a tape, we got a call, played a gig for them and were signed soon after." It seems simple, but as Gary concurs, "Much of the reason for that was because we had already recorded the tracks to a good enough level and we had our own van and PA, thanks to my mum and dad sinking their life savings into the band. Beggars gave no advance, a crap royalty, but we had a deal. A year later I had an album

The future of A&R?

A&R is an ever-developing beast. To help you figure out what the A&R buds might do next, here are some quotes to get you thinking about what they're doing, and what you should be doing to stay one step ahead.

"Nowadays, A&R have to be more pro-active in time they approach things. If you just sit back and [illegible] you want you'll be dead and [illegible] Now, it's a case of concentrating effort, and [illegible] roster of acts. If you're [illegible] mouth factor in this industry [illegible]"
Simon Cowell, RCA

"At the moment, there's a real streak of paranoia running through the business, and there [illegible] they may have [illegible] very few [illegible]"
[illegible]

"[illegible] not easily happen [illegible]"
Simon Aldridge, Columbia

Read. Think. Choose.

Sasha
Producer/Remixer:
Seal, Pet Shop Boys, Urban Soul and Evolution

Peter Gabriel
Artist: Peter Gabriel and Real World

Rick Rubin
Producer/Remixer/Label Owner:
American Recordings, Red Hot Chili Peppers, Beastie Boys, Run DMC and Public Enemy

Organized Noize
Producers/Remixers:
En Vogue, Goodie Mob and Outkast

Jermaine Dupri
Producer/Artist/Label Owner:
SoSo Def, Jermaine Dupri, Xscape, Monica and TLC

Roger Sanchez
Producer/Remixer/Label Owner:
Narcotic Records, Michael Jackson, Janet Jackson, The Police

Dexter Simmons
Engineer/Mixer:
Brandy, Monica, Vanessa Williams and Mary J. Blige

Tony Shepard
Producer/Engineer:
Whitney Houston, Al Jarreau, Tevin Campbell, Take 6

Keith Thomas
Songwriter/Producer:
Whitney Houston, John Secada, Tracy Chapman

Teddy Riley
Producer/Artist:
Michael Jackson, Bobby Brown, Black Street, Janet Jackson and many more

Omar Hakim
Instrumentalist:
Madonna and Sting

Logic Audio gives me a tremendous amount of production flexibility with its extremely high MIDI resolution. I can play the most complicated drum solos into it and Logic Audio will capture every event exactly the way I played it. It feels like I am recording to tape, not a sequencer. With its full support of the Pro Tools 24 System I have the most complete MIDI and 24 Bit recording package available.

Jamiroquai
Jamiroquai

Wait until you hear the new tunes we're coming up with using Logic Audio.
We used to think computers were not for us, but working with Logic Audio couldn't be easier, faster or more intuitive. It has opened up a whole new world for us to explore with our musical ideas . Setting up production environments couldn't be easier. Just draw them in your VIRTUAL INSANITY window.

Bryce Wilson
Producer/Songwriter:
Groove Theory, Toni Braxton and Mary J. Blige

Logic Audio is the front runner with my new Groove Theory Project... It makes producing & arranging songs a quick 1,2,3 compared to other Digital Audio/Sequencers I've used.

Bob Power
Producer/Remixer/Mixer:
A Tribe Called Quest, Eyrkah Badu, De La Soul and John B.

Nowadays with software as powerful and accurate both sonically and time wise as Logic Audio, you have everything you need in the one application. No more switching back and forth. Everything is handled from within Logic Audio... I'm not only a Logic Audio user, I'm a Logic Audio lover.

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and single both hit No.1. A few months after that I had another album and single also go to No.1. It was a good year for gloating at the 'wisdom' of A&R men and women."

Business minds

It's worth reiterating that the clout of managers and lawyers can really strengthen your chances with record companies. Asian Dub Foundation's Pandit G recalls how it helped their cause. "Being strong in yourself and getting proper advice is very important. Having a decent manager is paramount. Bobby Marshall is our manager and he is relentless, and he's been in the industry for a long time. Record companies are fearful of him, and no-one messes us about because of that," he semi-jests.

On the advice side, Pandit has some wise words. "Building up your own confidence is essential, whether you are playing live or recording in a studio. As long as you are working together as a collective, with a good manager, then you're in a really strong position."

The point is, A&R people need to see some star quality combined with a business head before they will consider parting with record company money. Adrenalin Junkies were well aware of this before they signed to Earache Records last year, as the group's Miss Chief explains:

"If there is nothing unique about your sound and your music, people won't go out and buy your records. And if you are not going to sell records, then why should a record company sign you? They are not a charity. Once we had got our selling point, we then made sure we had some slick photos taken, and sent the package to magazines and radio stations, simply asking them for quotes.

"Once we had compiled half a dozen, we designed a full-colour flyer, along with logo, quotes and pictures. After this, we duplicated 120 cassettes (CDs would have been preferable, but funds were limited), and we deliberately chose brightly-coloured jiffy bags rather than the normal brown ones, to make them stand out from the crowd.

"We then sent the packages out to record companies and publishers, and within two days we were getting offers of deals. It also helped that, at the time, Steve Lamacq made us 'Demo Of The Week' in *Music Week*, and we were made 'Demo Of The Month' in *The Mix*, with a follow-up feature. All of this cemented the process of getting a recording deal."

Pop, pop, pop music

But it's also the A&R departments which need to fuel the fire of new talent, especially in the ever-changing world of pop music. Simon Cowell from RCA Records has signed up numerous high-profile pop acts including blasts from the past Curiosity Killed The Cat and Sonia and, more recently, the mega-successful likes of 5ive and Robson And Jerome. So what is the reasoning behind such signings? And what does he look for in potential acts for his roster?

"The first thing I notice about a potential new signing is whether they have got star quality. They've got to have something more than being a bunch of kids who have been auditioned, which is what we usually see.

Simon is also keenly aware of one major potential pitfall – that of signing an artist who is going to compete with another artist who is already on your roster.

"5ive, Westside and [new signing] Mero have all got a very distinct sound. With every band, you want them to be the most successful in the area that you are doing, and you need to be confident that you can take on any other artist in that field. With a lot of record companies at the moment, you'll find that they are all finding girl groups making R&B records, which is pointless in my opinion, because of the competition."

With that in mind, it's obviously important to approach labels who are renowned for the genre you are in, without seeming like competition for any of their existing artists. As Adrenalin Junkies surmise, "There's no point in sending an Oasis-type track to Creation, for example, or a Prodigy-sounding track to XL. They have the originals, and they are not going to sign a conflict of interest."

Creating a buzz within the industry is perhaps the most effective way of capturing the attention of record companies who are more likely to have an empathy with your material. Mark Revell from The Egg explains how the band found favour with China Records. "We basically played as many gigs as we could when we first started, and tried to make an impression that way, rather than sending off hundreds of tapes to record companies," he recalls.

"We got a gig supporting Moby in Bristol and somebody who saw us there recommended us to an A&R scout at China who then came to see us playing at trendy Soho hangout Rikki-Tiks (a very weird gig!). There was a minor bidding squabble between them and Acid Jazz, and we went for the deal that suited us best. I think it's definitely better to try and create an industry buzz or a fanbase than to send out endless ignored demos."

Dedication...

It's evident that A&R people respect artists who are dedicated to their cause, and for some, the proliferation of manufactured pop bands has further exaggerated the need for concern in this area. Polydor's Luke Cunningham explains his thoughts on the matter: "Music seems to have become very safe recently, and there's not much of a rock 'n' roll lifestyle. Radio play is essential, and the way Radio 1 operates means that bands are limited in how they can express themselves. And a lot of the major companies have catered for that, because it can be a money-spinning exercise.

"But, if you are a good enough band, with good songs, and there's a superstar up front then you *will* get signed. A lot of kids plan on getting into music as a career choice, and it really doesn't work like that. The kind of attitude I look for is more of your Ian Brown-type – he was on the dole for Christ knows how long, and absolutely lived it, breathed it and shat it. And there aren't many people out there like that."

It may seem obvious, but the key elements in getting signed are commitment, tenacity, and – undoubtedly more difficult to muster – star quality and bloody great music. The consensus of opinion is that if you really do deserve a record deal, and are aware of the workings of the industry, you *will* get signed. Of course it's easier to get up at noon, go to the pub and whinge about the music industry and why nobody realises that you're the best singer in the world, but from what we've heard, it's an approach that will get you nowhere. What are you waiting for then? Go get yourself signed...

A&R CD COMPETITION UPDATE

We've already received a mountain of tapes for our competition with A&R CD (see issue 61 for the full story). If you want the chance to have your track on their independent A&R CD free of charge, get your demos sent to "A&R CD Compo" at *The Mix* office by Monday July 5th. The best offerings will be judged by a panel of top A&R types before being pressed to CD and mailed to all the major peeps-in-the-know.

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terminal

Truly great rehearsal studios are thin on the ground nowadays, but here's one that can boast 20 years of service – not to mention a client list that reads like a *Who's Who* of the current rock scene...

words
Nick Serre

images
James Cumpsty

recent clients

- Massive Attack
- Kula Shaker
- The Verve
- Hole
- Robert Palmer
- Tricky
- Robbie Williams
- Radiohead
- Supergrass
- Primal Scream
- Placebo

Terminal owner Charlie Barrett gets up-to-date on music production

Despite the abundance of home studios where you can compose, produce, arrange, record, master, and distribute (phew!) your latest opus, there are still many a band who do their thang live on a stage (remember that, anyone?) And, naturally, there is a need for top-flight professional facilities to rehearse in. It's all very well to complete a fully fledged production within the confines of your bedroom, but record companies and punters alike still feel a need to check out their favourite acts live. Terminal is one of these increasingly rare beasts known as the rehearsal studio, but in its 20 year history the staff have proved that they know how to get it right. Graced on a regular basis by virtually every name band from Kula Shaker to Supergrass, it's a hive of activity, and demonstrates the utmost in professionalism and facilities.

Owner Charlie Barrett muses on the early days: "I became a partner in about 1982, and we subsequently opened a recording studio; initially a 24 track. We had an Amek desk, and a 24-track Lyrec machine. We ran like that for about a year and it took off from day one. We had a nice big recording area; it was not the standard pine and hessian thing; we used rubber floors, and tubular scaffolding stuff, and we used this fantastic material we got from Scandinavia for the ceiling. It looked like corrugated iron. That approach really started to go well because there weren't many studios in that type of market at the time."

But as the '80s recession hit, less bookings were coming in for the recording studio, so it was decided to concentrate on the niche rehearsal studio side of the business. Not a decision that went with the grain at the time – many a recording studio closed down completely at the time. Charlie explains the reappraisal: "Really, it was the rates," he offers. "We dropped our rates to £350-£400 a day in the late '80s. In the mid '80s, we were charging £500-£600 a day. By about 1988/89, we couldn't even get £250 a day. When we started, every bit of music that you heard anywhere was done in an independent studio. By the late '80s, more than 60% was done by a producer, mainly in their own studio."

But Terminal's renowned live room was still in demand for rehearsing and track laying. Without the financial need to constantly upgrade their recording gear, the Terminal team started to invest in more rehearsal space. But there was more to the plan, too. Today, Terminal boasts five rehearsal studios, a spares shop, a restaurant and lounge, and various studio spaces that are on long term leases to the likes of Sneaker Pimps and Stereo MC's.

The Terminal experience begins in – where else? – the reception area

It wasn't the easiest transition to make, and Charlie had to struggle hard at times, but his knowledge, contacts, and enthusiasm saw him through. "In retrospect, I was just charging into it," he concurs. "It coincided with the early '90s recession, so it was a fucking stupid move, really. I found myself really up against it, but I got some money from British Rail in a settlement to do with the building, and went in with the hope of opening my cash flow through bookings. The daytimes were being booked and it all fortunately coincided. I was able to upgrade, and do it in style. At that time there was only John Henry offering comparable rehearsal space, so we didn't have that much competition. We were able to slot into that market quite easily.

As well as the physical space and the equipment, Terminal prides itself on the extensive »

selected kit list studio A

DIMENSIONS
50'x30'x11'
PA
10k with 10 monitor groups
DESK
Soundcraft SM24 48/24
SIDE FILLS
Martin Wavefront W8C & WSX 4 each
WIDES
Martin LE400 x7
DRUM FILL
Turbosound TMS 4
AMPS
C Audio RA3001 x5, Crest 8001, FA1201 x1, FA2401
GRAPHICS
BSS FCS 960 x3
PRICE LIST
£265 lockout (10am-11pm)
£210 10am-6.30pm

selected kit list studio 3

DIMENSIONS
35'x22'x12'
PA
5k with 8 monitor groups
DESK
Ramsa S840 FOH 40/8/2
SIDE FILLS
Turbosound TMS4 x2
WIDES
Martin LE400 x5
DRUM FILL
Turbosound TMS2
AMPS
C Audio RA3000 x5
PRICE LIST
£145 lockout (10am-11pm)
£115 10am-6.30pm

» range of services it has on offer. There's the restaurant and lounge, storage facilities, free parking, crew, trucking and transport contacts, and a well-stocked pro shop. And, as if that's not enough, to cap it all, they've even got a flight case making service.

As a musician himself, Charlie has always been fully aware of the need to offer his clients as wide a choice of options as possible. "I think that helps a lot," he says with characteristic enthusiasm. "What you're providing is not just four walls, you're providing a service which incorporates much more than that. "You have to have some empathy with your customers. You need to know what you're talking about, that's why they book Terminal. We're not going to treat them like a lot of idiots; we respect what they do. We treat them with respect as customers, and we're able to provide them with information as well as the facilities. I think what people appreciate here is that they get the job done with as little hassle as possible."

This ethos of putting the client's needs first is prevalent throughout the Terminal complex; indeed, it does seem that every need can be catered for. Professional and experienced engineers are on hand, and the flagship Studio B boasts a live stage with a full lighting rig and operator available for that full live experience. There are various quality desks adorning the rooms, from Soundcraft to Ramsa, and the comprehensive amplification and monitoring is maintained fastidiously.

"What we have always done is concentrate on having good sound systems in the rooms, which most other studios don't have," maintains Charlie. "I have a clear conscience, I know people can hear themselves properly on modern equipment, which is what most

Studio B's lighting rig allows rehearsing artists the full live gig feel.

Charlie Barrett: "We've always concentrated on having good sound systems in the rooms..."

people come here for – they know it is proper stuff and is in full working order."

Professionalism is most definitely at the heart of Terminal's operation, and it gives them an enviable reputation as well as an ever-growing roster of repeat clients. Jeff Beck is currently rehearsing for his new tour, and Terminal can boast a veritable *Who's Who* of live acts from the last couple of decades. From Boyzone to Bush; from The The to Teenage Fanclub, many have found favour at the complex. Add to that the proliferation of dance acts now taking their material into the live arena, and the possibilities for Terminal are ever-growing. So, the secret of running a rehearsal complex in a dance-music populated climate? Charlie is not swayed: "We try to establish what is happening in live music, but I think the key question is whether we can keep up with the music out there; whether the record companies are going to pay for records to be promoted in that particular way. You could argue that you don't really need a band at all, and that was a very real concern a few years ago. What has emerged is that people do still want to see live musicians."

Terminal boasts

And Terminal's next step? "We will just keep our finger on the pulse. We come here every day and talk to people, I think the danger is just taking a step back and letting other people run it. I think the only way to keep up is by talking to people."

Communication and forward-thinking have always been Terminal's ethos. Who else could have had such longevity in a market that few would touch with a barge pole? Add to that the quality and extent of service at the complex and you have one of the most professional facilities around. If live playing is high on your agenda then Terminal could well be the ideal place to start.

More from: Terminal Studios, 4-10 Lamb Walk, London SE1 3TT Tel: 0171 403 3050
Fax: 0171 407 6123 Email: rehearsal@terminal.co.uk
Web: www.terminal.co.uk

selected kit list studio B

DIMENSIONS
35'x35'x11'

PA
6k with 8 monitor groups

DESK
Soundcraft SM24 48/24

SIDE FILLS
Turbosound TM53 x2, Turbosound TSE118 x2

WEDGES
Turbosound TMW 215 x5

DRUM FILL
Turbosound TMS4

AMPS
C Audio RA3001 x4, Crest FA2400 x2

PRICE LIST
£185 lockout (10am-11pm)
£140 10am-6.30pm

selected kit list studio 4

DIMENSIONS
30'x20'x12'

PA
4k with 6 monitor groups

DESK
Soundcraft 8000 32/8/2

SIDE FILLS
Turbosound TMS4

WEDGES
Martin LE400 x3

DRUM FILL
Turbosound TMS2

AMPS
Crest 4001 x4

PRICE LIST
£125 lockout (10am-11pm)
£95 10am-6.30pm

last of the... record men

In 1971 he produced the Coke jingle that topped the charts for The New Seekers. Today *The Mix* visits the studio where David Mackay has worked with the biggest names in showbusiness...

"I still think the best records I ever made were the ones where you'd get a band in the studio, record a song straight to tape and mix it the same day..."

words **Douglas McPherson**

images **James Cumpsty**

David Mackay has a set of directions ready to fax to visitors. He has to. Unless they can see it in black and white, nobody believes he can live so far up a dirt track through deserted Surrey woodland. Really, you need a four-wheel drive to see the expatriate Australian producer. If you're a singer, you also need an exceptionally good voice. And you need to know when *not* to use it.

"Somebody said their idea of hell was being strapped to a chair and made to listen to a Whitney Houston or Mariah Carey record and I feel exactly the same way," opines the amiable grey-haired maker of some 35 hit singles. "Why somebody has to squeeze 400,000 notes into a perfectly good melody and just show off beats the hell out of me. Because those people are given good songs and they turn them into rubbish.

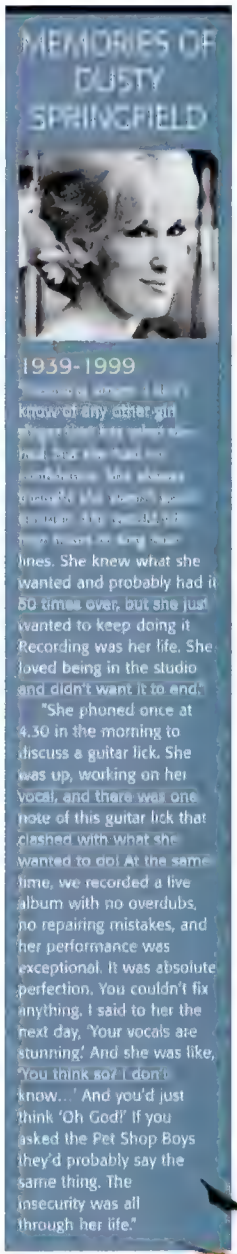
"If you listen to a really great performance like Otis Redding singing 'Dock Of The Bay'... Now that's stunning. There's commitment and belief. And the melody stands out like a beacon. Tina Turner is another great singer. You know she's got so much back there but she doesn't put every trick she's ever learned into every line. She lets the song come alive, and for me that's really important."

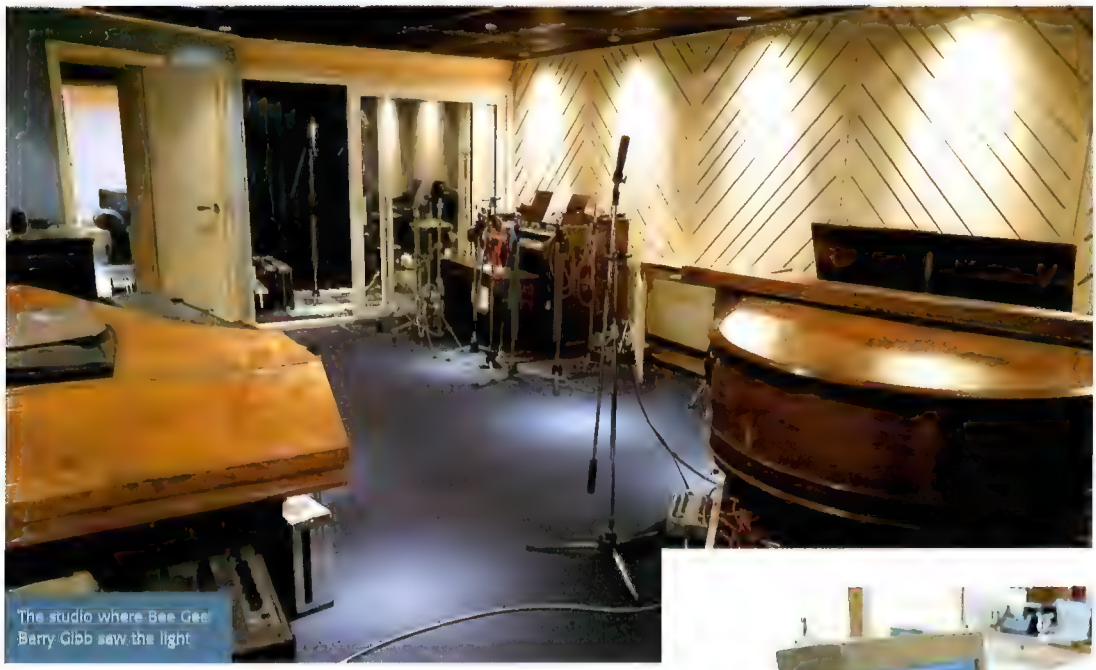
Tired of commuting to London, where he "lived in the studio," Mackay bought his remote hillside home 22 years ago and built a studio in a former inventor's workshop within the grounds. "The previous owner made training ships for the navy. He called his shed The Factory, so I kept the name," says David.

On his first afternoon of business in The Factory, Mackay captured Bonnie Tyler's classic single, 'It's A Heartache', which went on to sell four million copies. Among the other big-selling artists Mackay has worked with are Cliff Richard, Frankie Miller, Gene Pitney, David Soul, Billy Ocean, Demis Roussos and the late Dusty Springfield. He has also used his rural retreat to compose the theme music and scores for such well known TV series as *Bread*, *Blott On The Landscape* and *Auf Wiedersehen Pet*.

Walking down steps cut into a steep grassy slope to the corrugated iron studio that he currently chooses to hire out, Mackay observes that the place he jokingly now calls the hairdressing salon, "wasn't as posh as this when I worked here!" It's not the plush blue walls, circular mirrors, well-polished grand piano or range of equipment that first catches the eye, however. It's the rustic view from a floor-to-ceiling window. "I was working in Australia and it was so dark in the studio I was using that I could hardly see. When I

Gold discs from back when making records was fun





The studio where Bee Gee Barry Gibb saw the light

came back I decided I wanted more light in my studio. So I knocked the whole wall out. Now you can see horses in the paddock, foxes running around. You're in touch with everything outside, and I love it."

The open plan living area of Mackay's house also features an exceptional quantity of glass, and he likes to see the sun streaming in. Not for him the nocturnal existence of many music makers.

"I was doing a project some years ago with Barry Gibb of the Bee Gees and he said, 'What time tonight shall we start?' I said, 'I don't work in the night time.' I think the day is for working and the evening is for family, you know? Well, we worked together for about four weeks. We played tennis in the afternoon and went out for meals in the evening and he just loved that way of working. He'd never done it before."

For his own part, Mackay says, "I always think clearer in the morning. I like to get in the studio at about eight o'clock and I can get a lot of work done before the artist arrives. That way when they come in we can get straight on with it. This isn't a residential studio, but the great thing about working in this environment is if a session isn't working you can suggest the artist stops and goes for a walk or a dip in the pool. That sometimes works. Also, if you have a group in the studio, they're not all needed all the time, so those that aren't working can borrow a tennis racket and hit a few balls. It's pleasant."

Since last summer, Mackay has hired out The Factory and set up a ProTools operation in his house. "It was only in the last couple of years that I started reading about ProTools, and saw a demonstration, that I saw the power of it." Mackay is a proudly old-fashioned record maker, however, and is happier talking about people than the technology at his fingertips. "I started recording in the old days when everything was to mono," he says with undisguised nostalgia. "I still think the best records I ever made were the ones where you'd get a band in the studio, record a song straight to tape and mix it the same day. It was down to the performance and the producer really getting the best out of people, and flying by the seat of your pants. There was a buzz there that I don't think you get these days.

"It's become a technical exercise. You can spend four hours listening to a bass drum! One of the biggest limitations with ProTools is you can't punch in and out of various tracks on the fly. When you've got a singer, you're trying to maximise the performance. You're trying to capture everything quickly and with ProTools that isn't possible."

Having worked with some of the great singers of the past, Mackay also feels the crutch of technology has made today's artists lazy. "It's hard to generalise because there are great artists around, but performers used to understand mic technique far better. There are some artists that I have worked with for years who are masters with a microphone. One singer in particular can go from a whisper to full voice and the meter will sit exactly where it needs to sit the whole time. You don't need loads of limiters and compressors to control it. Whereas lots of singers today will come in without a clue how the microphone works or how to get the best out of it."

David is a recent convert to the power of ProTools

Born in Sydney, Mackay began his career in a vocal group called The Toppers when he was 11. "I was watching *Bandstand* on TV and thought, 'I can do that!'" And, sure enough, within a couple of months The Toppers were on that very programme. "We used to tour

selected kit list

CONSOLE

Harrison 32 Series with Alison automation

RECORDING

Sony 3324 x2

Digidesign ProTools

OUTBOARD

EMT 140 plate reverb x2

Lexicon PCM80 reverb

TC Electronics M5000 reverb

Alesis Midiverb

AMS 1580S delay

SPL Vitaliser

Aphex 602 exciter

Roger Meyer gates x6

UREI 1178 compressor

DBX 162 compressor

DBX 160 compressor x2

MICROPHONES

Neumann U87 x3

Neumann KM 84 x3

AKG D12 x2, C451

Beyer M88N

Sennheiser MD421

KEYBOARDS / MODULES

Steinway grand piano

Yamaha DX7

Wurlitzer electric piano

E-MU Proteus 1 & 2

Korg M3R

Roland U110 & 220

Oberheim Matrix 1000

Hammond C3 with Leslie

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24bit

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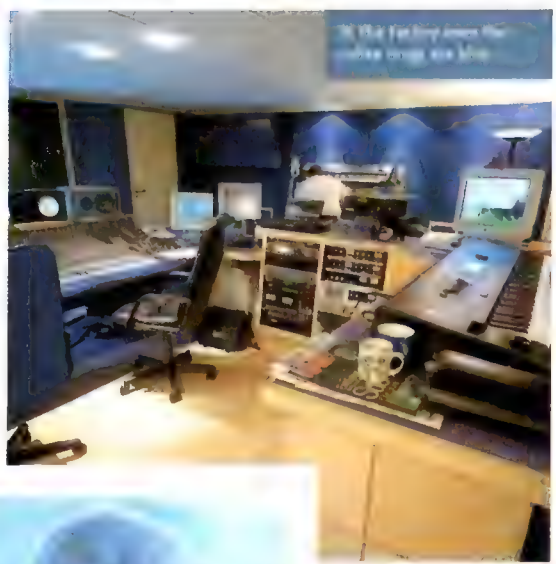

in the school holidays and do TV shows on the weekend. When I made my first record I said 'Who's that guy in the room there who keeps telling us what to do?'" He was, of course, the producer, and it was at that point David decided on his future career. But this was only after going into the theatre as a song and dance man, where he rubbed shoulders with a young Olivia Newton John, and studied every aspect of music for "18 or 19 hours a day."

Mackay subsequently became a DJ. "The radio station had a recording studio. They needed an engineer and they asked me because I'd studied studio techniques." After being headhunted by EMI, Mackay moved up from engineer to producer and took charge of A&R for Australia, before transferring to London where he worked as a staff producer at Abbey Road before setting up The Factory.

He still credits the man who brought him to Britain, Ken East, as "The greatest record man I've ever known. "He was the managing director of EMI right through The Beatles. He's still like a father figure to me. The reason he's a great record man is he's not an attorney. He's not an accountant. He's a record man. He loves records. He can tell you the catalogue number of practically all the EMI back catalogue from the '60s to the '80s. People running record companies these days are not record men. They don't love records. They love money. They play a corporate game and they're controlled by accountants and lawyers."

Expanding on his love of the old days, Mackay adds, "We used to make records and you'd be excited. You'd finish it and say, 'Yes!' You couldn't wait to get in there and run around the radio stations and knock on TV company doors. It was a lot of fun. You'd have three albums to break an artist and that's what you really need. You have to give an artist time to grow and spend some time with them. Now you have to do it all in one fell swoop. If there aren't three hits on the first album the record company doesn't want to know. Potentially, you're heading for disaster because the artists don't have the longevity. They don't build catalogues and catalogues are the life blood of the industry. Why aren't we getting English acts in the American charts? We're not breaking acts. We're making one off records for people who are trying to be so trendy they disappear up their own backsides."

Another of Mackay's mentors was Cliff Richard's manager Peter Gormley, who died last year. "He was definitely the greatest manager I've ever worked with. He wasn't musical but he could walk into the studio when I was producing Cliff and he immediately knew what was wrong with the song, or the track, or the sound. He had the greatest understanding of an artist I've ever come across."

In recent years, Mackay has spent less time producing than composing for TV and the theatre. He has co-written a contemporary opera, *Paris* which will open in Australia next year and he is just finishing a musical called *California... A Lifetime Affair*, which will be staged in America and Switzerland. His main focus at the moment, however, is Sarah Jory, an English country singer and steel guitar player who has rekindled his interest in the art of producer as star-maker. Mackay first produced Jory when she was signed to country 'n' Irish label Ritz. The result was her biggest-selling release with the company. David is currently steering her away from MOR hell into more rock-oriented territory with the release of *Kiss My Innocence* on his own Tamarin label. It's the sort of challenge he relishes, and he's doing it the old way: spending time with the artist, developing her voice and performance, and allowing himself the *de rigeur* three albums to break her.

"She is one of the greatest guitarists I've come across," he says with almost fatherly pride. "And we've had to develop her singing to match the power of her playing." Mackay has also had to raunch up Jory's image, at risk of shocking the loyal country festival and social club audience she has had since beginning her career as a child prodigy 20 years ago.

"I think it upsets some people over here who say she should be like Shania Twain or the Dixie Chicks. But we can't take them on at that game in the international market. You can't take a girl from England singing country music to America. However, I had a hit with Bonnie Tyler and 'It's A Heartache', which, OK, is a pop song but it had a country base to it. So that's the sort of thing we have to do with Sarah."

He knows the major labels aren't interested – yet. "One company's head of A&R said he's not interested in signing any girl singer who's over 17 or 18 years of age, which is a horrible statement to make. And this man is running one of the biggest record companies in the country." But Mackay is sure he has a future star on his hands. "I've had friends who are producers and TV people go to see her and they can't believe it. She is world-class. After one festival she sold 850 CDs. That's over £10,000 of records. She sat there for an hour and a half and every piece of merchandise, every record and every picture went out of the truck. The potential is phenomenal, and I'm determined to make it work."

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News from the industry, advice, tips and software for PC users compiled by *Ian Waugh*

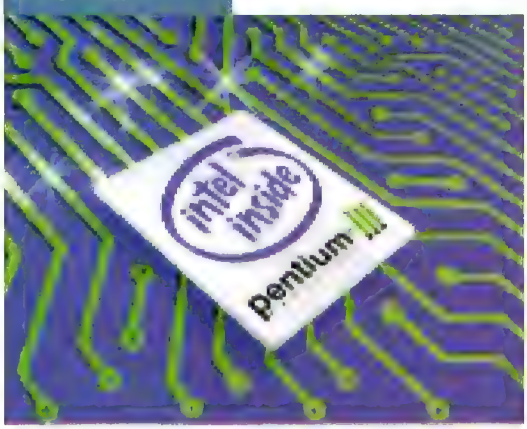
NEWS

III for alll

Intel's Pentium III has hit the streets. And so has AMD's K6-III. The latest generation of Intel's Pentium processor runs at 450MHz and 500MHz. It supports a 100MHz system bus and has 512K level II cache. It has 70 new instructions, which can improve software performance in certain areas.

Steinberg have been the first music software developers to climb onboard the PIII wagon, with the release of Cubase VST 3.65 for the PC. The new instructions are used extensively in the EQ section and it uses only about 75% of the processing power required by a PII. The audio engine runs about 10% faster, too. The upgrade is on the Steinberg website, but don't rush for it unless you have a PIII, because the new version has no new features and brings not one jot of improvement to anyone using a PII.

Intel's Pentium III with 'go faster' stripes is already causing pricing controversy among PC suppliers



AMD's K6-III is available in 400MHz and 450MHz versions. AMD have released benchmarks which show that a 450 K6 is faster than a 500 PIII under Windows 98 and a smidgen slower under Windows NT. The speed boost is provided by a 256K secondary integrated cache which is integrated into the chip.

The chips incorporate 3D NOW! technology which significantly enhances floating point 3D intensive graphics – great for games but not used much in other applications. There's nothing to suggest that a program optimised for a PIII, such as Cubase, will run any faster on a K6.

PC World slashes P III

PC World, not generally known as purveyors of low-cost computing supplies, surprised everyone by offering a new Pentium III 450MHz computer for £1,056. They claim that the company's Advent PC is some £100 cheaper than even mail-order box shifters can achieve, and followed it up by saying that the company have a mission not to be beaten on price for PCs.

They reckon they can offer such prices because of their bulk-buying power, but industry analysts say that the price is too low to be maintained. The worry is that this will force other suppliers to reduce prices, resulting in some going to the wall. Bad news for the industry, perhaps but good news for consumers.

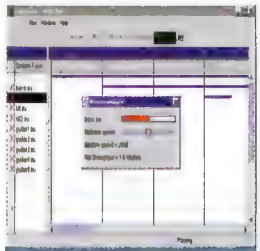
Sainsbury's join in

Sainsbury's are the latest in a growing line of supermarkets to put PCs amongst the peas. They are selling £999 PII 400-based Fujitsu systems in 23 stores for a three-month trial period. Fujitsu, you may recall, originally had a deal with Tesco but were unable to supply sufficient quantities so Tesco went elsewhere.

The PCs will be on sale in 13 national Savacentre stores and ten in Greater London. The PCs are more expansive that those being sold by other supermarkets – but also of a relatively high spec – in order to maintain the store's image. Sainsbury's claim the PCs are still £200 cheaper than equivalent high street models.

Hyperceive

The slow speed at which we can access and download data from the web always causes a bottleneck. This is never more true than when dealing with audio, which tends to come in very large files and which, therefore, takes an age to download, even when Zipped. That's why there are several technologies aimed at compressing audio and streaming it in over the web in real-time, trying to make it easier to transfer quality audio.



Hyperceive's 'modem simulation' mode plays files as they would be heard by someone visiting the web page

Hyperceive is another one, but with a difference. It's a sequencer designed to deliver audio across the web, but it does it by breaking the audio into small chunks which are easily transferred and then assembling them at

CD info

track 01

This month, we've got two collections of voices for Yamaha's new FS1R synth in MIDI file format, plus demos of the Hyperceive web sequencer and the Signum S1100 DX sampler

FS1R sounds

If you have one of Yamaha's new FS1R synths, you might be wondering if anyone has written an editor for it. If you have a Mac, the answer would be yes – check out this month's *Mac Toolbox* on page 98. Unfortunately, the program has not been ported to the PC, and whether it will make it or not remains to be seen. However, PC users can still avail themselves of the two sets of voices – Cyber and Popular – which are in standard MIDI file formats. They're on this month's CD and can be downloaded from the Yamaha website www.yamaha.co.uk/xg/html/f_curent.htm.

the other end. It can be used to transmit music, speech, sound effects, and so on.

The program essentially assembles short digital audio files into a longer playable sequence, and you need a wave editor to organise these. No, one is not supplied, although our cover CD does contain the shareware version of Cool Edit.

The program supports up to 24 tracks, each of which can be assigned an audio file. The play area is to the right, marked out as beats and bars. To play a track, you click a blue line into this area and the file can be played as many times as you wish at any point, simply by adding more lines. Although 24 tracks can, theoretically, be played at once, this may be stretching it with some systems.

It's a neat idea because it means that only the audio files next in line have to be downloaded, and once downloaded they can be played as often as required. If you construct a piece which starts off with just one or two files, playback will start almost immediately, giving the system time to download additional files for multi-track pieces. If a file which is required for playback has not yet downloaded, there is an option to loop back to a section until the file has been received.

The program includes a modem simulator which imitates the downloading behaviour of a modem, allowing you to see how quickly the audio files load and playback.

The main problem, as you may have sussed, is that the audio files need to be carefully constructed, cut, trimmed and organised before you can start assembling a song. The program, alas, does not do this for you, which is where a good wave editor comes in. To optimally produce files for a rock song, for example, each instrument would need to have its own audio files and, ideally, lots of repetitive parts so one recording can be used in the arrangement many times.

After creating a piece, you save it as a .hyp sequence, along with a directory containing the sounds that have been used and the Java engine which makes the thing work. This is published to a website and when someone visits the page, the .hyp file is automatically downloaded along with the Java file player and playback starts.

The files are saved in the host machine's cache, so viewing the page offline will still allow the music to play. One good thing about Hyperceive is that it doesn't require any special plug-in. However, it does make extensive use of Java, so the receiving browser needs to be fully compliant.

Considering that you need a wave editor in order to use Hyperceive, the asking price of £150 looks a bit steep. The shareware version of Cool Edit on the program CD can be used up to a point, but you need to register it to access all the cool features.

But Hyperceive is an interesting alternative to the many streaming systems currently in use and has many benefits for delivering sound and music over the web. The program is available from Insigma on 0870 606 0550. There's a save-disabled demo on this month's cover CD and you can download it from the website: www.hyperceive.com The site also contains links to sites which are using the program.

The program is available from Insigma: 0870 606 0550. There's a save-disabled demo on this month's cover CD, and you can download it from: www.hyperceive.com.

The Hyperceive website plays music and talks to you almost as soon as you access it

Signum sampler

We've seen a rush of soft synths appearing over the past year or so and, more recently, one or two soft samplers. The Signum 1100 DX is another one, modelled very closely on the Akai series of samplers, as you can see from the screen shots. In fact, apart from a short Quick Start guide, there is precious little documentation, and it is suggested that you download the S3200XL manual which is freely available from the Akai website: www.akai.com.

There are two displays. The main one is the Sampler screen, while the Display screen is essentially a close-up of the LCD and is probably the one you'll use the most. First thing to do is set the MIDI in and out and the audio device from the drop-down menus. You can use the sampler with a sequencer running on the same PC via a loopback device.

In the lower right-hand corner are eight selector buttons, cryptically labelled with two-letter descriptions. Fortunately, pop-up descriptions appear when you rest the mouse cursor on them.

Operation is, as you'd expect, very like an Akai sampler. Function keys on the PC or the mouse are used to select the various screens and you can click and tab your way around them to adjust settings and parameters. The hardware interface is cute and anyone familiar with Akai samplers will feel right at home. However, there's no denying that creating and editing samples via an LCD like this is not the most intuitive way of working. The larger display area afforded by software can greatly simplify the process, but by mimicking the hardware, the 1100 DX passes up the opportunity. Oh well.

The program does, however, support DirectX plug-in effects so that's a nice bonus, although the documentation has nothing to say about this feature.

The Signum 1100 DX Sampler is $100 shareware. There's a demo on this month's cover CD, and you can download a copy from: www.signum.it.

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mac toolbox

Industry news, tips, advice, and software for Mac users, compiled by *Ian Waugh*

CD info

track 01
Check out the FSED editor if you want to get to those hard-to-reach places on your Yamaha FS1R synth. Also, we've got the latest version of MIDIgraphy, the surprisingly powerful shareware MIDI sequencer.

NEWS

Apple get FireWired up

If you've been following the releases of the various shades of Mac over the past few months, you'll be well aware that they lack most of the ports, sockets, ins, outs, peripherals and interfaces required by musicians. But what they *do* have is FireWire.

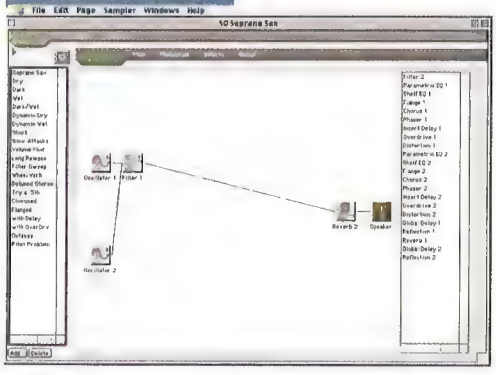
Otherwise known as IEEE 1394 – catchy name – FireWire is a transfer protocol which promises data transfer at rates far exceeding SCSI. Currently they tend to be around 50Mb/sec but the promise is of rates four, six and even eight times that. Very useful for digital audio recording.

The first devices to include FireWire in any number seem to be digital camcorders and apparently over a million cameras so-equipped have been sold. However, FireWire can, theoretically, be used with any device which requires data exchange including printers and scanners as well as hard disks. You can hot plug FireWire devices, too.

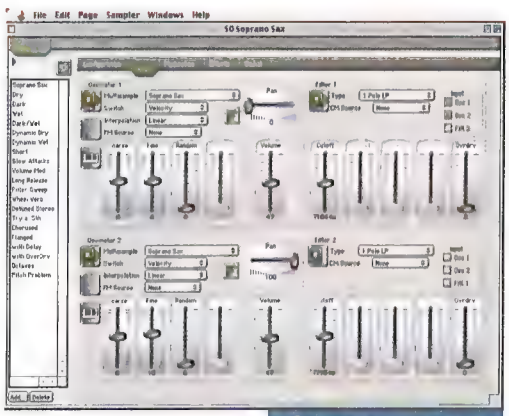
Apple developed FireWire in the early 90s, it was approved as a standard in 1995 and now Apple have got together with five top companies – Matsushita (Panasonic), Philips, Sony and Toshiba – to support the standard and promote it. If this has the same impact on peripheral development as the iMac seems to have had on USB devices then we can expect to see a flurry of FireWire devices appearing within the next six to nine months.

But anyone who is already heavily invested in SCSI technology has a tough choice. Unless you want to abandon your expensive SCSI gear when upgrading to a new Mac, you'll need to buy a SCSI interface, At that point you'll be able to run both SCSI and FireWire devices from the same machine and, presumably, invest in new FireWire gear as required, eventually pensioning off your SCSI devices.

But it's all still early days – far too early to suggest ditching SCSI. If you're new to the game you've really no option but to go with SCSI. Or wait a few months and see what turns up…



Unity's Configuration page shows the route sound takes from the oscillators (samples), through the filter and effects to the output



The Main editor page adopts a synth-like layout and has many synth-like controls

Perfect unity

It's interesting to note how many soft synths have appeared over the last year or so. It's also interesting to note how many have built upon a common interface and audio engine. Well, okay, one – Vibra 900, which we looked at in issue 59.

But drag yourself back to issue 55, to a program called Retro AS-1, and you'll find yourself on familiar territory with a new program from the BitHeadz' boys – Unity DS-1. If the 'AS' in Retro stands for analogue synthesizer, you can probably guess that the 'DS' in Unity stands for digital sampler.

And that's just what it is. It borrows a lot of its functionality from Retro, but unlike Retro, which synthesizes sounds, Unity uses digital audio samples. These are stored on hard disk but loaded dynamically into RAM for playback. So the amount of RAM in your Mac does not determine how many samples you can play back at once, but it does determine the *size* of the samples you can play at once.

The installation can copy up to 250Mb of samples to your hard disk – highly recommended. You can easily trim and cut the ones you don't want, but remember that you need plenty of hard disk space for messing around with samples. The program supports the Akai sample formats, too, so you can import S1000 and S1100 files directly from an Akai CD. Brill!

The program can play back though any digital audio output and supports the latest 24-bit cards. You can run the program alongside a sequencer, in which case you really ought to be looking at 128Mb RAM (although it will work with less) and control is via OMS or FreeMIDI. If your Mac doesn't have the welly to run

two programs simultaneously you can save a real-time performance to disk as an audio file and load it into a sequencer with digital audio facilities.

Like Retro, Unity is made up of several sub-programs and Retro users will recognise the Editor, Mixer, Keyboard, MIDI Processor and Control Panel. They aren't identical but close enough to engender familiarity – and a wish that it was all housed in one program.

Like a traditional sampler, Unity assigns samples to specific keys enabling you to construct multi-sample instruments and multi-layered instruments, too. You can actually assign up to 128 samples to a single note, each with their own velocity range – wow! – which is several more than any sane person would probably want to do. But with musicians, who knows...?

The setup is done in the Editor where the samples are processed through filters and modulators. The routing is very comprehensive, offering 13 filter types and the ability to define your own modulation sources and destinations. Sources can be tomato, pesto, bolognaise – no, sorry! – er, velocity, envelope, aftertouch and so on. The destination can be virtually any editable parameter such as volume, filter settings and so on.

Unity also has built-in effects, both insert and global types, which include reverb, chorus, delay, phaser, overdrive and EQ. Edit facilities for the sample files include a loop facility, and processing functions include fade, normalise and reverse.

The MIDI Processor allows you to create splits and layers, and contains an arpeggiator. The Mixer shows the 16 MIDI channels to which you can assign sounds and adjust settings such as volume, pan and effects.

Unity seems to have the same sort of latency as Retro – in other words, you can easily play it live from a MIDI keyboard with no noticeable delay.

Unity differs from traditional samplers by offering a range of processing functions more in keeping with a synthesizer than a sampler. In fact, in many ways it's a hybrid instrument. The supplied samples give you a flavour of what the program is capable of cooking up, and very tasty they are, too. In particular, examine the supplied sample sets to discover how one set of samples can be processed and modulated into several different sets of sounds.

The docs are, alas, on disk in Acrobat format and while it's good, you're entitled to expect more for the money. But that apart, the program is rather neat and if you're into sampling it's something you'll definitely want to try before you pass it by. Given the current price of hardware samplers, it looks a veritable bargain. Check out the demo on the website: www.bitheadz.com.

Unity is £299 from Digital Media: 0181 642 6306.

MIDIGraphy revisited

Ah... the welcome return of an old friend. Well, it hasn't actually been away, but it's over two years since we last looked at MIDIGraphy. It's the only half-decent shareware sequencer for the Mac and it's surprisingly powerful. It is not, however, perhaps quite as intuitive to use as you would like it to be but, hey, waddya want for next to nowt!

MIDIGraphy has three main windows: Graphical (a piano roll editor), Event and a Mixer console. The Graphical window can show any of the 16 MIDI channels, each one in a different colour. The main information is, of course, the notes, which appear as oblong bars on a grid. However, you can also see and edit pitch bend, system exclusive and controller data.

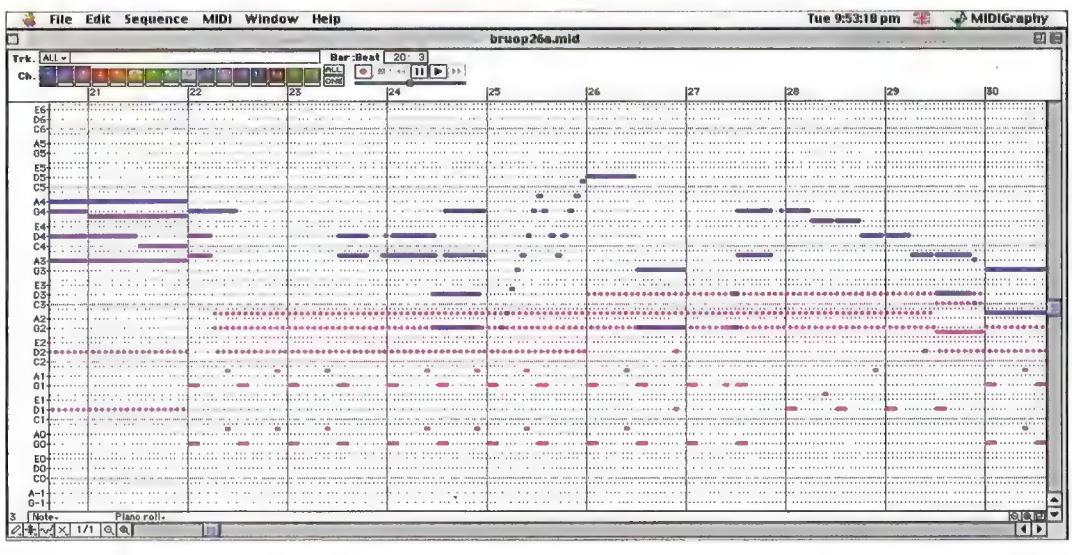
The Event list shows events in a list (as you'd expect) and you can edit them with the mouse. The Mixer has 16 channels and shows the velocities of the notes on each channel during playback. You can also adjust the volumes, pan positions and other controller data for each channel.

You can record in real-time from an attached MIDI keyboard and in step-time using the mouse. It's fairly easy, although entering runs of notes of different lengths is a tad fiddly.

As well as playing back via MIDI, MIDIGraphy can play back using the QuickTime Musical Instruments extension, which means you don't even need any MIDI gear to make music. You can even load MIDI files into MIDIGraphy and play them back via QuickTime.
The program has a lot of other features and functions which you can discover by reading the SimpleText manual documents – you can try to wing it, but the chances are you'll come unstuck somewhere along the line.

For a shareware sequencer, MIDIGraphy is very well-featured and there are people out there who use nothing else. It's definitely worth checking out. The current version (1.4.0) is on the cover CD, and you can always find the latest version on the website (address below). It's shareware and registration is only $20, so do register if you use it.

Get it from: http://ux01.so-et.ne.jp/~mmaeda/indexe.html.



FS1R freebies

Got a Yamaha FS1R? You lucky whatsit! What makes you even luckier is the free FS1R Editor Yamaha has just released. It can manage 128 performances and 128 voices. It offers control over the synth's parameters using many graphic editors as well as numeric displays.

It includes a Fseq editor where you can draw in real-time sonic changes. If you've tried to do this using the FS1R's LED display and cursor keys, you probably gave up. The software makes it all much more accessible. It's on the CD and you can download it free from: www.yamaha.co.uk/synth/html/f_curent.htm. (Note that there is only one "r" in "curent".) Also on the CD and on the download page are two voice sets – Cyber and Popular.

help file

Problems in the studio? Ghosts in your machines? Contact the Help File, where our team of audio experts try to to solve your technical torments

glossary

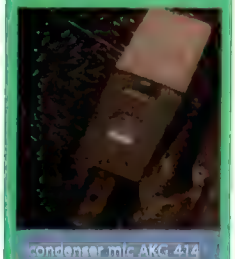
'transforms' that digital audio processes use to change audio data

AV
Audio Visual. Equipment labelled AV has improved functionality, making it suitable for audio visual work

CD-R
Recordable CD. Achieved by burning data into a special coating on the CD. The newest incarnation is CD-RW (read/write), which can be erased, as well as written

Condenser
A type of microphone that uses the reaction of a diaphragm to change a capacitance. Condenser microphones need an applied voltage to work, some with battery, some with an external phantom power supply

DAT
Digital Audio Tape. A stereo, digital tape format, originally developed as a consumer format, but taken up as a mastering format by the audio industry. Uses a special rotating head assembly



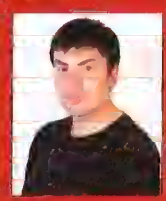
condenser mic AKG 414

the masterminds

this month's *Help File* team

NAME:
Ian Waugh
OCCUPATION:
computer journo
CHOSEN SUBJECTS:
music software and hardware, flat cap wearing, coal mining

NAME:
Paul Mac
OCCUPATION:
technical editor, *The Mix*
CHOSEN SUBJECTS:
Apple Macs, digital audio, dog walking



NAME:
Trevor Curwen
OCCUPATION:
record producer
CHOSEN SUBJECTS:
studio processors, retro sounds, vintage organ collecting

Q iMac for music?

I really want to buy an iMac in three to four months' time but I'm wondering if it's the right choice for music. I currently have a ten-year-old Atari 1040STE that is falling apart and often fails to boot up. I run Cubase 2.0 on it.

If I get an iMac and a new version of Cubase, will it run successfully? Will it be compatible with my Akai S950 sampler and Roland D5 keyboard? (Sadly all my gear is ten years old, as you can see.) I don't mind buying a couple of add-ons, such as the floppy drive and a MIDI port, but could you tell me what's available, and will it work once I plug in all the necessary bits?

I want to use the Mac for Photoshop and DTP stuff too, and I've got my heart set on an iMac, but only if it's practical for music-making and specifically with Cubase. Does it matter if I buy revision A, B, or the new 266MHz version?

Finally, would my old Atari Cubase V2.0 be compatible, or would there be a problem in the way those disks were formatted?

John, email supplied

A

iMac is quite a computer. Yes it looks lovely, and the forward-thinking Apple people have seen fit to change the world of peripherals as we know it, but is it any good for music? The problem is expansion. Obviously if you're going to stick to some basic stuff then it's no problem... USB converters , MIDI ports, and disks are on their way and Cubase version VST 4.0 and over is iMac compatible.

The problems come with major expansion. Where do you put your audio PCI cards, an AV drive, and all that kind of thing? Nowhere. Bit of a problem, that.

USB devices are just starting to emerge, so maybe by the time you buy your system there'll be plenty to choose from, but remember that there is only so much speedy transfer even a USB port can contend with. If you're happy with the basics and consider the DTP stuff your computer's main role then you're probably all right, but the recommendation now is the first generation of G3 Macs. The second wave seems to have surprised the audio software people and it may take bit of time for full compatibility.

Keep an eye on our news pages and *Mac Toolbox*

Who cares about expansion options – choose your favourite iMac colour

for notification of that. It might be worth phoning 'round the software manufacturers when you're ready to buy, just to check. In the meantime, we'll keep a close eye on how music on the iMac develops and keep you up-to-date.

The three iMac revisions are basically speed and graphics upgrades, so if you're going to buy one, then get the new 266MHz one – the bonus is a choice of colours!

Your old Cubase files will be compatible, but the program will not. To get a Atari file onto a Mac simply copy it onto a PC-formatted floppy disk and put it in the Mac (that's always assuming that your Mac has a floppy drive).

Paul Mac

Q Recording guitar

I play acoustic guitar and want to use my computer's hard disk to record my playing, and sometimes my singing. The guitar is not fitted with a pickup, but I own a Shure SM58 microphone, and my computer is an Apple Macintosh G3. Please advise me on any additional hardware and/or software I may require to achieve an adequate recording.

I'm not into Cubase and do not, at this stage, look for mixing and other sophisticated features – perhaps only a bit of EQ. I'm not into MIDI, since I do not play keyboards. I just want to be able to obtain an acceptable recording which I can play back and amend in the process of building guitar instrumentals. I hope to achieve this objective in as cost-effective a manner as possible.

Henry Fell, Australia

A

Okay, we'll go from the mic stage. You should understand, though, that this is a 'How much do you want to spend?' type of question, because there are many variations on this theme.

The SM58 is not an ideal mic for recording guitar. It's a dynamic, so it likes a lot of level in, and it's really intended for vocals. The presence hump in its frequency response means that your guitar won't sound quite right. The SM57 is a slightly better option if you like the SM sound, but the best solution is either a pickup for your guitar, or even better, a reasonable condenser microphone – either a general-purpose one, or one intended for acoustic instruments. Either way, you'll need a pre-amp, and for the microphone it will need to supply phantom power. To get into the computer from the pre-amp you either go analogue or digital. If digital, your pre-amp needs a converter as well, which adds to the cost, so we'll forget that option for the moment.

If you're not interested in top-of-the-line processing in your pre-amp, you shouldn't need to spend more than £200, though if you can, the sound is usually worth it. We'll stick to the budget versions for now, though. You should check out the ART TubePac (£167, reviewed issue 45), the Joe Meek VC3 (£199, issue 59), or the Hooter Sound B1 (£161, issue 56). There's many more, but these are the notable ones we've looked at over the last year. Look out also for names like dbx, Focusrite, TLA, and LA Audio.

Acoustic treatment needn't be excessive

Into the computer we go, and this is where the choices start getting monstrous. In any case, you'll need a soundcard. You don't need anything fancy, just good sound quality, so a decent stereo card will do the job, anything from the Digidesign AudioMedia III to the new Creative Labs SoundBlaster Live. If you're looking to expand your recording operation in the future, you might want to look at investing in multi-channel hardware now. In any case, if you've already got a soundcard, or you have audio inputs built in (as on PowerPCs) then you might be able to wait before the soundcard becomes urgent, though a bit of money here will do the pre-amp justice!

As for software, you just need a stereo recording and editing package for now – something like Steinberg's Cubasis AV, Wavelab, Syntrillium's CoolEdit Pro, or Sonic Foundry's Sound Forge. You'll probably be able to find some shareware alternative to see you through, but it really is worth going commercial if you can, as support and upgrades are generally more forthcoming, and crashes happen less.

Paul Mac

Q Mix dissection

I am not exactly a pro at making music; I'm just getting into it, and I have a question to ask as no-one else seems to have the answer. I heard that there is a program that can pull or extract a certain instrument or vocal from any song. Any chance you could tell me what it's called, how much it is (hope it's free), and very importantly, where I can get it from?

Burim Cecelia, London

A

If you can find such a program, let us know at once! The reality is that getting an instrument out of a mix is very, very difficult. In a mix, the harmonics in instruments become entwined. You can do a certain amount with a sophisticated EQ, or a noise gate (for percussive stuff), by tricking noise reduction systems into scraping some of the mix. Most often, a combination of these works best, but it will never be perfect.

You can sometimes get rid of the vocals on a track by phase- inverting one side and adding it to the other, thus cancelling out anything that's panned centre – it's a popular project for electronics enthusiasts with a spare 1:1 transformer, but you can simulate it with

glossary

Dynamic
A type of microphone that uses a coil (attached to the diaphragm) moving in a magnetic field to produce an alternating current proportional to the sound waves that move the mic's diaphragm

EQ
Equalisation. Frequency (pitch) selective filtering of audio in order to boost or cut levels inside the specified frequency range (bandwidth)

Frequency response
How a piece of equipment affects the frequency spectrum of an audio signal. It is often expressed as a bandwidth and the amount of amplitude variation within that bandwidth

MiniDisc
Sony digital audio disc that was tipped to become the new domestic standard, but which now finds favour in the broadcast studio, theatre, and project studio for mastering

MO
Magneto Optical disks. Used as removable storage, normally for archiving, but increasingly as a recording medium (by Genex and Yamaha, for example). The big advantage is security – MO disks are difficult to erase accidentally

PCI
The standard cross platform computer hardware interface for card slots. Replaces Nubus in the Macintosh, and ISA in the PC

a PCI card

a decent mixer, or (with mixed results) in software with a recording or editing package.

Bearing in mind the advances that have been made in plug-in algorithms over the last six months, there may well be such a program under construction, or lurking somewhere that we haven't looked at. If so, we'd be very interested to hear about it.

A final word of warning, though. Nicking bits from someone else's track and using them in yours is illegal. Just so you know.

Paul Mac

Q Master muddle

I have just bought a mixer and some decks and I want to make mix CDs to play on my college radio show. I am looking into buying a recording device, but I would like it to last so that when I do my electronic music course next year I can still use it. I have been looking into getting a DAT recorder, a MiniDisc recorder or a CD recorder. What would you recommend? Should I wait until the new 24-bit DATs drop in price, or are these really for studio work? Can DATs be recorded over and over with no loss in sound quality like MiniDiscs can?

To me the CD-RW seems the best bet because I can also store computer data, but I can't take it out with me to record my sets when I play live in bars & clubs.

Adam Soutter, email supplied

A You've almost answered your own questions. Starting with the CD-R thing: you're right, the big advantage of having a computer CD-R set-up is that the CD-R can double as a data storage device as well – though have you considered other removable media like MO, Zip, or Jazz for that? Getting data onto a CD isn't just a drag–and-drop operation; you have to wait for the thing to burn. And if you want to make an audio CD, you have to get the audio in the computer in the first place. If you do a lot of performance-based stuff, a standalone recorder would be a better option.

On the DAT thing, the tapes will inevitably lose quality the more times you record, like any tape. However, DATs aren't too expensive these days, so that shouldn't really present a problem. 24-bit DAT technology is here, but you'd be unwise to drag *any* DAT machine around the clubs (considering their fragile transport), let alone an expensive 24-bit machine – and of course you lose the advantage of instant cueing. MiniDiscs do not have the same audio quality as the other two formats, but it takes a good ear to tell the difference under domestic listening conditions, which is why these are in demand for broadcast applications where the audio quality is compromised more by the delivery system than the media itself.

So your choice is between MiniDisc and CD, and that really depends on your practical requirements. MiniDiscs are climbing in popularity because they're so easy to use and convenient, but CDs are by far the most common format. After taking a vote, we reckon that for bars and clubs performance, you can't beat MiniDisc's quality-versus-convenience rating.

Paul Mac

MiniDisc is a good option for anybody after instant access, reliability, and live work.

FAQ: W30 SCSI search

Q Is there anywhere I can get an W30 SCSI upgrade so I don't have to keep using floppies? I don't want to pay over £150, and I've heard that there is a Roland parts catalogue available. Any ideas where I can get this from? I don't have easy internet access, so telephone numbers and addresses are essential .

Steve Thompson, Email supplied

A The bad news is that Roland UK don't have any W30 SCSI upgrades left. The good news is that they sold them all to the Roland Owners Club (ROC). You can get the upgrade, otherwise known as the KW-30 SCSI Upgrade, from them for £65. The kit comprises a new SCSI chip, a manual, and the latest operating system.

You can either email (enquiries@roc-club.com) your Visa, Access, MasterCard, or Delta card number, or send a stamped SAE to: ROC, P.O. Box 319, Peterborough, PE2 5GG. For more details, go to their website (www.roc-club.com) or email/write them with specific enquiries. Membership to ROC is £18 per year. For Roland's parts catalogue, phone 01792 515023.

Paul Mac

You can still get a SCSI upgrade for you W30 from the Roland Owners Club

glossary

Phantom power
A DC voltage (usually 48V) that is applied to a condenser or capacitor microphone

SCSI
Pronounced 'Scuzzy.' Small Computer Systems Interface. Parallel data interface used to connect storage devices to a computer (hard drives, CD-ROMs, and so on) Standard on Macintosh computers; PCs need a SCSI card

Shareware
Software with a shareware license agreement. It is freely available on the internet, or cheaply from third-party companies. For continued or fully functional use, a registration fee is payable to the author

USB
Universal Serial Bus. The newest serial connection standard for both PCs and Macs. USB devices include floppy drives, hard drives, MIDI ports, scanners, and so on. Synth and audio USB devices are imminent

S/PDIF
Sony/Philips Digital Interface. Standard digital audio connection with a status bit for copy protection. Usually on a phono (RCA) connector

WAV
RIFF WAVE file: a digital audio sound file standard used mainly on the PC platform, but rapidly becoming the norm. Akai's new samplers use the WAV file format

SCSI interface (right)

ON SALE NOW!

MAGAZINE AND CD £4.50

Lost in Space

The Roland Space Echo was both the top of the heap and the end of the line for tape delay. *Trevor Curwen* dons his analogue anorak and goes loopy

Echo, or delay, plays an essential part in music production. These days it is mostly provided by digital units, but many producers and artists still like to use good old-fashioned tape-based delay for its particular sonic qualities.

That's why, for a certain group of recordists, there was a most welcome announcement in *The Mix* news back in issue 59. Echotec, a company in South Wales, are manufacturing tapes for Roland's popular series of tape-based echo units, generally known as Space Echos. The tapes have not been available direct from Roland for a couple of years, and with a recommended useful life of only 300 hours, they do need replacing on a regular basis. So it seemed like an ideal time for *The Mix* to take a look back at these classic machines.

Also, the actual hard-wearing tape type used is a closely-guarded secret, and although it is possible to make up tape loops with a substitute tape type, these are not as durable and don't last as long as those produced by Roland.

Once upon a time

Tape delay has been used on recordings since the 1950s. Originally, delay was created by sending a signal to a second tape machine and feeding the output from the playback head back into the mix. The delay occurred because of the physical distance that exists between the record head and the playback head on a reel-to-reel tape recorder, with the time taken for the signal on tape to travel between the two being the delay time.

This delay time is a direct function of the distance between the heads and the tape speed, so different tape speeds provide different lengths of delay. This method allows one single repeat or slapback, but if the signal is then fed back to the record head, multiple repeats can be created. Studios used reel-to-reel recorders in this creative fashion both for delay effects themselves, and to delay signals being sent to reverb plates and chambers.

Using the record head/playback head method, standalone tape delay units started to appear during the 1950s, mainly developed for the guitarists of the period. The first American-made unit available commercially was the Butts Echosonic amplifier, which was actually a guitar amplifier with built-in tape delay, and was endorsed by Chet Atkins and Elvis Presley's guitarist Scotty Moore.

The Echosonic had a fixed speed and one playback head, with an electrical feedback loop that fed the output back to the input to get multiple repeats. Other designs incorporated several playback heads in line, each of which produced a repeat, and this approach could also be combined with the electrical feedback method. The early '60s in the US saw the arrival of a new unit called the Ecco-Fonic. This was followed by probably the best-known American unit, the Echoplex, which had a moveable head to vary the delay time.

At the same time, Europe was also producing tape echoes. Out of Germany came the Klempt Echolette, from Italy came the Meazzi. Used by Hank Marvin of The Shadows, the Meazzi was taken up by Vox, who went on to produce their own machines, including the 6-head Shadows Echo. The best known of the English tape echoes was the Watkins (later WEM) Copicat (see box on page 106). A new 5-head version of the Copicat is currently available.

Copicats and Echoplexes were still being produced in the 1970s when Roland introduced their first Space Echo. Could it have been these units that Roland were taking a swipe at in their 1977 ad campaign for the new-kid-on-the-block RE 301, blasting the poor sound and very limited performance from bad '60s designs?

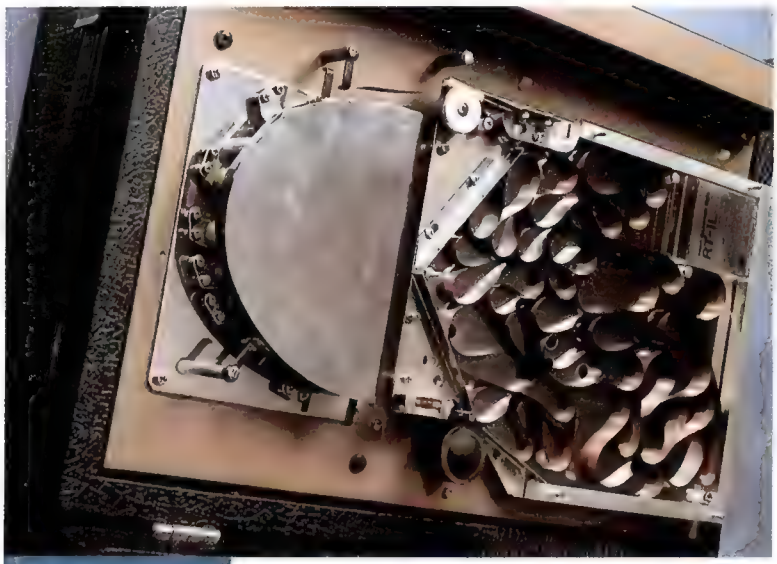
The Space Echo incorporated multiple playback heads and electronic feedback to increase the number of repeats, as well as adjustable tape speed and it became extremely popular.

However, with electronic delay (both analogue and digital) and digital reverb also becoming available, the tape delay lost out to these new, affordable units, which appeared to offer several advantages. There were no moving parts to wear out or cause mechanical noise, no tapes to change or heads to clean, no tape hiss, no glitching when the tape splice passed the heads and no wow and flutter.

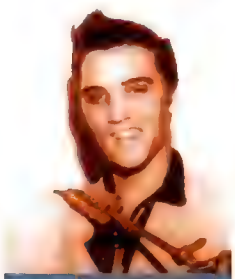
Roland
CHORUS ECHO
RE-501
CHORUS
ECHO
REVERB
MODE
VOLUME
INTENSITY
REPEAT RATE
TONE
BASS
TREBLE
POWER
REPEAT
SINGLE
CANCEL REMOTE SW
OUTPUT

Roland
CHORUS ECHO
RE-301
CHORUS
ECHO
REVERB
INTENSITY
MODE
VOLUME
REPEAT RATE
TONE
BASS
TREBLE
OUTPUT
POWER
INPUT
EFFECTS
REMOTE
ECHO
SINGLE DELAY
CANCEL REMOTE SW.

SPACE ECHO RE-201
Roland
PEAK LEVEL
MODE SELECTOR
REVERB ONLY
BASS
TREBLE
REVERB VOLUME
REPEAT RATE
INTENSITY
ECHO VOLUME
POWER
MIC VOLUME
MIC VOLUME
INSTRUMENT VOLUME
MIC
MIC
INSTRUMENT
FROM P.A
OUT PUT
FOOT SW
ECHO CANCEL



Round, round we go: the spaghetti junction-like innards of a vintage Space Echo unit



Elvis Presley – *The Sun Sessions*

For Elvis Presley's first recording sessions at the now-legendary Sun Studios in Memphis, producer Sam Phillips used a second tape machine for that slapback sound heard on much early rock'n'roll.

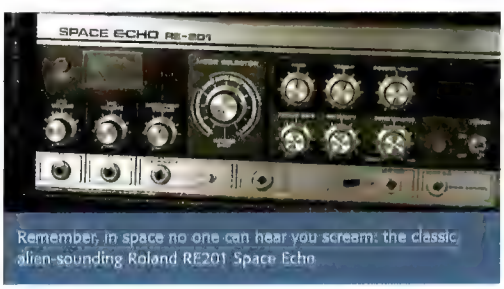
The Shadows

Shadows guitarist Hank Marvin employed tape delay on many of the band's early hits. Much later in his career, he used a Roland RE301 in live performance.

At the same time, there *was* the ability to dial-in millisecond-accurate delay times and even store them in memory; the units also took up less space. All tape delay had going for it was a certain sound quality that was not produced by the digital delays of the time: namely, the softer sound of the repeats which progressively lost their treble content (much as sound does in nature), and the physical front panel knobs that could so easily be tweaked in real time.

Spaced-out

The Roland Space Echo probably represented both the pinnacle of achievement for portable tape delay, and the last gasp for the genre. It was superseded by affordable digital delay in the '80s, when Roland ceased production. But you'll still find plenty of them out there in daily use, and second-hand units can still be found for a couple of hundred quid.



Remember, in space no one can hear you scream: the classic, alien-sounding Roland RE201 Space Echo

The series of five machines were the RE101, RE201, RE301, RE501 and SRE555. Although generically known as the Space Echo, not all of the units were actually so-named: the 301, 501 and 555 were named Chorus Echo. There was also a rather obscure RE150, and a digital Space Echo, the RE7, which emerged in the late '80s and seems to have sunk without trace.

The Space Echos were serious professional units, solidly built into a black vinyl-covered box (with the exception of the rack-mounting SRE555). All the controls and sockets were located on the front panel with only a captive mains lead at the back.

Removing the lid, the business end of the machine is revealed. The Space Echo utilises a continuous tape loop which is about 10 feet long. In comparison with other machines that used much smaller loops, the Space Echo's long loop offers significant improvements in terms of longer tape life and the fact that the splice passes over the heads less often.

Although a longer tape loop might seem an unwieldy prospect, Roland's elegant solution was to house the tape in a large tape reservoir with a perspex lid to keep it sealed in. The tape comes out of the compartment through a tape guide, passes over a series of heads arranged on an arc, and then goes back into the compartment via a pinch roller.

With this method, the tape is only under tension in the area outside the compartment and is allowed to coil naturally inside. Loading a new tape is never a problem: a rectangular perspex box containing the tape inside it is loaded into the compartment, and a small portion of the tape is pulled out and threaded round the heads before replacing the compartment lid. Switching the machine on will then naturally pull the tape out of its rectangular box.

The echo effect can be chosen initially from the mode switch, which selects different combinations of the three playback heads. The first three positions of the mode switch select each head separately, with the first head producing the shortest delay times and the third head the longest. Within the range of delay provided by each position of the mode switch, the actual delay time can then be altered by the repeat rate knob, which varies the tape speed. An intensity knob varies the number of repeats, and on some models there is also a switch which limits the effect to one repeat only.

Echo output volume is controlled by its own knob and (with the exception of the RE101), bass and treble controls are also provided to EQ the repeats. All of the models except the RE101 feature spring reverb, with the amount of reverb determined by the reverb volume knob. Various options for the use of remote footswitches are provided, as is switching for different input and output levels.

Losing the manual was never a problem with Space Echos – a clear and comprehensive guide with a graphic representation of the front panel is stapled inside the lid.

Using the Space Echo

Space Echos can be used in pretty much the same way as any other delay: send them some signal on an aux send and bring the echo back up on a spare desk channel. Alternatively, plugging instruments directly into them when recording will capture the whole sound.

There are many variations of the delay, depending on which mode is chosen and how the repeat time and intensity are set. The first three positions of the mode switch select each of the three heads individually, and turning up the intensity control will give equally-spaced delays. The timing of these is determined by which head is selected and the repeat rate (tape speed).

Other positions of the mode switch bring in combinations of heads which introduce delays that may not be equally-spaced, depending on the spacing of the particular heads from each other. The head

spacings of the RE301 and RE501 are different, so when using a combination of heads, these two otherwise-similar machines sound different.

In fact, the RE301, because of its head spacing, was at one time the favoured stage delay of Hank Marvin of the Shadows, which led to secondhand 301s being snapped up by hordes of 50-something guitar-playing Shadows fans. Hank now favours an Alesis Quadraverb 2 with specially-customised presets.

Comparing the two machines, the 501 seems capable of a slightly longer delay time than the 301, but that's getting into anorak territory *['Getting into?' (!) – Ed]*. The important thing to know is that all the Space Echos are capable of a usable range of delays, including realistic '50s slapback and, in the case of the Sound-On-Sound-equipped machines, repeats that can last for up to 35 seconds.

The RE301: as used by untold legions of speccy, middle-aged Hank Marvin imitators

Sonically, there can be some tape noise to contend with, but this is only really apparent if the treble control is turned right up. The sound can also glitch or get a bit wobbly when the splice in the tape loop passes over the heads.

One plus point is the tactile experience of using the machine: parameters can be tweaked in real time just by grabbing the knobs and turning; there's no searching through menus or setting up MIDI controllers here. Tweaking the repeat rate when the signal is going into the machine changes the tape speed and hence the pitch of the delays, as well as their timing. Turning the intensity knob way up past the 12:00 position causes a saturation of the delay effect as it feeds back on itself. These two special effects are demonstrated on this month's cover CD.

Besides the echo effects there are also the chorus and reverb. Due to the short length of the unit's reverb spring, the reverb can sound nasty, trashy and clangy, which makes it the perfect antidote to overly lush digital reverbs, and a useful weapon in anyone's effect armoury. And whatever your views on chorus, Roland are the originators and the finest exponents of the sound, and the chorus on the 301, 501 and 555 reflects this.

Overall, the Space Echos are fun, versatile units that provide a useful sonic alternative to digital delays. To get the best out of them they do need to be regularly cleaned and demagnetised in much the same way as any analogue tape recorder, and don't forget to replace those tapes.

Repairman-speak

Any mechanically-based device will need regular maintenance to stay on top form and Space Echos are no exception, especially as some of them are now over 20 years old. Cleaning the heads is the most obvious routine task and is easily carried out with isopropyl alcohol and a cotton bud. If you neglect this, there will be a build-up of oxide, which can also clog up the felt pads and make them become hard.

The heads also need to be demagnetised now and again, which is a straightforward enough process if you own a degausser.

Apart from these user tweaks, regular maintenance by a suitably-qualified technician is recommended, perhaps as often as every six months if the machine is used heavily. A few expert tweaks will keep things running smoothly.

The pinch wheel and motor capstan assembly have to be adjusted carefully to get the tape to float through cleanly and, on the front of the machine, there's a felt pad take-up tensioner that has to be very carefully adjusted to keep the tape running smoothly through, but with enough tension that it doesn't actually drop away from the heads. The more heads on the machine, the more complicated the job.

Mechanically, with the motor, the bottom thrust bearing is the biggest problem, but motors can be

Best-known of the British tape echoes: the Watkins (later WEM) Copicat.

John Lennon
Both on Beatles material and later throughout his solo career, John Lennon preferred to hear his voice effected with tape delay, usually with a single repeat.

Lee 'Scratch' Perry
The notorious reggae producer has used the Roland Space Echo on many of his productions. One famous photo of his Black Ark studio shows an RE 201 sitting above the desk. Check out his *Arkology* 3-CD boxed set.

Portishead
Portishead are known to use Roland Space Echos. Check out Beth Gibbons' vocal at the end of 'Glory Box' on the band's first album, *Dummy*.

Alternative tape delays

Apart from the new version of the Watkins Copicat, (available from Watkins Electric Music, Tel: 0181 679 5575) the only place to find a tape delay is secondhand through a dealer, private ads or online auction. Besides the Roland units, several other makes can occasionally be found. The units most closely resembling the Space Echos are the Korg Stage Echos, which come in two versions: the SE300 and the better-specified SE500.

The most commonly available tape delay is the Copicat. The original unit, introduced in the early '60s and known as the split-top box version, featured valve circuitry which added some very pleasant-sounding distortion when driven. Later versions switched to solid-state playback heads and the design changed over the years, with some versions sporting four heads. Copicats are basic machines and can be quite noisy, but they do have a certain charm, especially the early valve models.

One oddity which occasionally surfaces is the Melos echo. This one actually uses a tape cartridge which slots into the back of the unit. Tape cartridges for these are no longer available, but the resourceful individual can always replace the tape inside the cartridge.

rebuilt. Circuit boards are not usually a problem. Pots, switches and buttons can fail through old age, but are easily replaced. The reverb pans will break down occasionally.

As the tape is always running when the machine is switched on, it's a good idea to just have it turned on only when you are actually using it. This will also save general wear and tear.

Super models

The RE101 is the most basic of the Space Echos, with tape delay only. The machine features four inputs, a 6-way mode switch to choose the head configurations, and controls for echo volume, repeat rate and intensity. The echo volume control is actually a blend control to change the balance between the direct sound and the effect sound at the output when using either of the two microphone inputs or the instrument input. The fourth input is designed for using the machine on an auxiliary send circuit as it would most likely be used in a studio, and cuts direct sound to the output.

The RE501: "Developed from the RE301 to be the ultimate expression of Roland's tape-based delays."

RE201

The original classic Space Echo, adding reverb and tone controls to the facilities on offer. This machine has a 12-way mode switch to select the head configurations. Of these 12 settings, four are for echo only, seven for echo plus reverb, and one for reverb only. In the 301, 501, and 555, the 6-way mode switch allows for the following combinations of heads: 1 only, 2 only, 3 only, 1+2, 2+3, 1+2+3. With its seven different configurations, the RE201 also allows the 1+3 combination.

RE301

An upmarket version of the 101 and 201, the RE301 takes the basic concept one stage further. It's got three identical inputs, each with a 3-way switch to change the input level to match whatever is plugged into it. The user's chart inside the lid suggests -50 for a microphone, -35 for a guitar and -20 for an electronic organ. A switch is also provided to turn the direct signal on and off, leaving the echo volume control free to be a pure volume control rather than changing the direct sound/effect mix.

The two major differences that set the 301 apart from the 101 and 201 are the addition of Sound-on-Sound and Chorus. Sound-on-Sound mode is selected by a third front panel switch (the other two being for chorus and echo) which activates a fourth head allowing longer delays. According to the user chart, these delays can be between 10 and 35 seconds depending on the tape speed, but these lengths refer to the time it takes for the last repeat to die away rather than the time between the dry sound and the first repeat. Plugging an instrument into the unit in Sound-on-Sound mode allows users to play along with themselves.

In the '70s, chorus was an exciting new effect rather than the dated, naff noise that it is regarded as in some circles these days. At the time, Roland introduced their JC (Jazz Chorus) 120 amplifier with built-in stereo chorus, and also packaged the effect on their huge mains-powered CEI chorus ensemble footpedal. So it was a natural progression to stick it in the 301, with a knob provided to adjust its intensity. Two output jacks (A+B) are provided on the 301, and when jack A only is used, the sounds are output from it. Plugging a jack into output B allows stereo output with chorus in stereo, direct sound and reverb from output A and echo and sound-on-sound from output B.

Four jack sockets, when used with a footswitch, allow for remote control of effects. The first turns all effects on and off while the other three control each individual effect-chorus, echo and Sound-on-Sound.

RE501/SRE555

Developed from the RE301, the RE501 and its rack-mounted equivalent, the SRE555, are the ultimate expression of Roland's tape-based delays. Instantly recognisable from their matt black and orange front panels, a major innovation with these two models is the inclusion of balanced XLR input and output sockets to the left of the front panel, and a red LED ladder where there had previously been a VU meter. The XLRs effectively replaced two of the 301's inputs, but one jack input still remained with one volume knob controlling all the inputs. The only other major difference to the front panel (apart from obvious ergonomic and cosmetic changes) is the provision of an LED to helpfully indicate when Sound-on-Sound mode is engaged.

The most recent (1995) version of the Watkins Copicat. A new one is under development

A Space Echo in your studio is a definite asset, both as an alternative to sterile digital delays and as an inspirational tool to plug into and spark off some creativity. So get searching those second-hand ads...

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The RE201 is put through its paces on a variety of spaced-out settings

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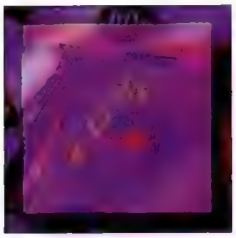

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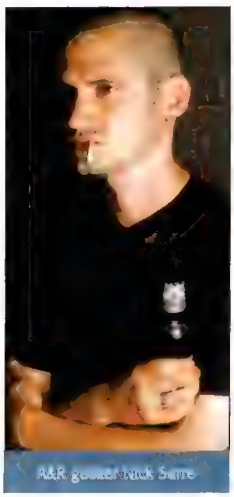

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THE RED BULL JUNKIE
EL PASO

That Blondie single 'Maria' was on the radio this morning, which annoyed me greatly because of that bloody bell sound. It was backed by some trashy Euro-house anthem which was completely forgettable. And then *this* lands on my desk. It's a perfect distillation of both, so I'm instantly annoyed again. But, all this serves to show is that there is some formulaic work going on here. And it's worked for a lot of people, so let's not be too harsh. Perhaps part of the reason for the clichéd sound of the lone track supplied is the limited armoury The Red Bull Junkie (a guy called Gary) has at his disposal. A JX305 keyboard is not gonna create a dance anthem. But there *are* some interesting ideas at work here, and perhaps with more gear, and more of inclination to push some boundaries, Mr. Bull could come up with some intriguing material. And, as we constantly point out on these pages, ditch those long intros; attention spans don't last long enough.

Verdict: Not flying yet.....6/10

More from: Gary Tel: 01793 433950

RISTO HUTTUNEN
THE 1997 COLLECTION

Now I know that the international post can be a bit tardy, but this is madness. Either that or it's taken our Finnish friend two years to getting round to sending in his 14 track demo. Whatever, Risto has written some music for TV ads, news programmes and corporate videos, and it really shows on this demo – slick production with catchy hooks is the order of the day. The only problem is that if he wants to escape the banner of 'background muzak', albeit well-executed, he's gonna need to snap out of his Vangelis-by-numbers attitude. Emulating your idols is one thing, but it needs to be done cleverly – which is in no way an easy task. The 1997 remix of 'Drive' ironically takes it back to 1987, with cheesy horns and drum programming, and a revolting slap bass that didn't even get used at the time. And all of this is a pity, because there are some great arrangement tactics going on. Aim for the games console market as a lucrative option, Risto.

Verdict: Game over.....6/10

More from: Risto Huttunen Tel: +358 407 303 881

MA YEOMANS
WAVE

This chap cites Tangerine Dream as an influence, and has lived in Japan. And while I don't wish to make any glaring stereotypes, he's certainly got a grasp on his synthesis. And '80s production techniques. And cheesy drum sounds. Now this may be entirely intentional, but if that's the case, there's an argument for introducing an element of pastiche to the proceedings. That said, on the second version of 'Wave (Wave Rave)', there's a kind of bigbeat ethos at work, à la Prodigy, (and hints of U2!) with maniacally overdriven guitars and pumping bass. Mr Yeoman's vocals are slightly Gary Numan-esque, but the temptation to artificially double-track them has been somewhat over-abused here. It's an easy trap to fall into, but overdose is not good. Whether it's to do with his influences or something more sinister, these ideas need to be taken back to the drawing board for more work.

Verdict: Wave good-bye (for a bit).....5/10

More from: 22 Thorrington Cross, Essex, SS14 1LB

EMPIRE MONKEY
DEMO

By his own admission, Mike Guy has listened extensively to Leftfield and a host of other trance-inspiring artists. And he's got the style off to a 'T'. Fortunately, he's also adept enough to showcase his own originality within the three tracks supplied here. He uses the ever-popular Roland JV-2080, an E-MU Morpheus, Novation Supernova and various other classy tools as the mainstays for his material, and he avoids falling into the trap of using some of the more familiar sounds of these machines. Which is admirable – we've all heard tracks that, although great, are ruined by over-reliance on the sounds that happen to be in vogue this week. He's utterly self-effacing, too, asking whether the hook synth line of 'Walking The Dog' is catchy or annoying. The best answer I can muster is: both. But that's what some of the most successful chart-busting music is based on, so I ain't about to criticise that. Or any of the other cuts on this fine demo.

Verdict: Shaking the tree.....8/10

More from: Mike Guy Tel: 01928 713881

SULIMON
DEMO

This chap gets off to a good start insofar as the intro to opener 'French Kiss' lasts for a grand total of nine seconds before the catchy chorus kicks in. People take note. The tracks here are on a kind of '90s R&B tip, but there's more humour and general know-how permeating it than some of the pale imitators currently infiltrating the airwaves. Sulimon's voice, both in terms of timbre and delivery, is refreshingly charming, and comes replete with some very convincing Prince (or whatever his current name is…) nuances. Musically, Sulimon name-checks the likes of R. Kelly and Jodeci alongside Marvin Gaye, James Brown, and a host of rock-oriented artists. It is, evidently, this mix of influences that gives him the authority to demonstrate his stuff with such conviction. Add to that the production talents of Don E, Eddie Martin, Richard Edwards and Michele Chiavarini, and you get a slice of slick R&B that deserves to succeed.

Verdict: Sophisticated R&B (no, really).....8/10

More from: Sulimon Tel: 01582 410260

SNATCHOLOGY
SNATCHISM

We'll excuse the, ahem, quaint name for the moment, because ska rocks. It rocks even more when it's played live. And that's exactly what this six track offering is about. Energy fuelled and injected with major doses of humour, it's feel-good stuff of the first degree. And the playing is supreme. We'll gloss over the sometimes-dubious recording; it seems to be a direct signal from the mixing desk, and while it is a competent demonstration of the band's material, there are some distressingly annoying level changes throughout the recording. Which is a shame, because it really detracts from what was obviously a stonking gig. We can't assume the engineer is to blame, either; but whatever the reason, the material just about manages to shine through. Snatchology would do themselves a sizeable favour by getting their (front) bottoms into a studio and nailing their already impressive set into a wicked recording.

Verdict: Funny funky ska.....7/10

More from: Justin Tel: 01225 336525

WORMHOLE
PARADISE EP

Anyone who has the guts to cover Philip Oakey and Giorgio Moroder's 'Together In Electric Dreams' (even if it's a dodgy version) surely warrants a review. But let's not hinge on the covers. Wormhole also provide some intuitive rock/pop ditties epitomised by 'Gotta Stop Meeting Like This' which opens with catchy funky guitar and throbbing bass before a rather naff sax and a kicking vocal enter the fray. The drumming is a bit show-offy, but it kinda works at the same time. What this track *does* demonstrate, like most of the other tracks here, is that Wormhole (merely a duo) have a firm grasp on arrangement techniques, and manage to proffer an incredibly live edge on their material. A bit of gigging has gone on, I reckon, given the obvious interaction between the band members, and I reckon Wormhole would be a pretty captivating live act to boot. Catchy pop is an ever-selling market, and Wormhole stand a good chance of being an arbiter of it.

Verdict: Don't disappear.....8/10

More from: drjools@hotmail.com

LAMINAR
SCULPTURAL EVOLUTION

Drawn-out ambient(ish) electronica is Laminar's bag. And while some of it is pretty nifty and clever, it ultimately lacks any depth or ingenuity. There are some adeptly-sampled timbres at work here (the metallic warbling on the title track is sublime), but these sounds seem to get lost in a quagmire of bog-standard arrangements and general production flaws. If you've created a killer sound, try building the track around it; it would be more impressive as a minimalist effort than coating it in unnecessary formulaic ideas (to use the loose sense of the word) is. It's a bold move to do this, but if the ideas are strong enough, it can be a fantastic attention-grabber. Things do pick up a bit with 'E. Munsch'; backwards sounds and eerie synths make it both sinister and strangely comforting at the same time. 'Non turbulent fluid flow of a liquid or gas' is apparently the definition of Laminar, and that sounds just about right.

Verdict: Progressively eroding.....6/10

More from: akon@laminar.demon.co.uk

a&r checklist

We receive a mountain of tapes every month, so to maximise your chances of having your demo reviewed (and, if you're really good, getting on *The Mix* CD) we need you to provide the following:

- Decent quality cassettes, preferably chrome (type II), CD or DAT
- A kit list of the gear used to produce the demo
- A biography of the act. We want to know all about you!
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demo of the month

TOO MANY GURUS
DEMO

"A fusion of frequencies fashioned to tickle your eardrums…" That's how Too Many Gurus describe their quirky blend of acid pop and dance/trance nuances. "Dreamtime" sees overdriven guitar melding with party synths. Deft use is made of sampled vocal extracts and despite there being so much going on in the mix, it all sits well, with no one part clambering for space. They've got a fair bit of kit, including an E-MU 6400 sampler, Korg Prophecy and Roland JP8000, and they know how to use 'em. Gareth and Yazz have disparate backgrounds: Gareth is in indie guitar bands, while Yazz is a trance-spinning DJ. Too Many Gurus, they claim, is "music full of sunshine and more flowers than you could shake a hippy at." Let's see what the industry reckon.

More from: Gareth/Yazz Tel: [illegible]

INDUSTRY VERDICTS

The first track, "People Change", has two lead singers, several styles of guitar playing, trancey sequences, jazzy drums and more. They swamp the strongest ideas with a tide of instrumental detail. Lacking any into on the act, I'd say they sound like hippies who are into rock, but are seduced by electronics. I know we're into fusion and all that, but some of the blends here have the appeal of colours in contact.

• **Stu Lambert, Partner, Dip Dog Records**

This track starts promisingly with the sort of laid back beat-folk usually associated with Beck and more recently Shawn Mullins, then all of a sudden it goes all electro-pop on us. Too Many Gurus fail to really get to grips with melding together these two very different styles of music. The result is an otherwise decent track that really lurches uncomfortably from one section of the song to the next.

• **Sam Winwood, A&R, Sony 21**

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Yamaha CS1x still boxed, immaculate, blue book, CD-ROM £300 or part exchange for Technics WSA1, Roland JP-800 or Yamaha AN1x. Tel Jamie on 01635 32191

Yamaha DJX keyboard, brand new, still boxed, unwanted gift £210 or will part exchange for Quasimidi Rave-O-Lution 309. Tel 01900 814649 (Cumbria) or e-mail: alans@djswifts.freeserve.co.uk

Yamaha DJX PSR-D1, 284 voices, sampler, song sketchpad, 32 voices polyphony, new, boxed, adaptor £250. Tel 01732 453542

Yamaha DX7 £200 or swap for BassStation. Tel Lee on 01708 853958 or 01708 72282

Yamaha DX21 classic synth just like the DX 7, but with split keyboard facility £150 ono. Tel 0114 220 5519

Yamaha PSR38 with music stand, manual, very good condition £100. Tel 0956 187261

Yamaha PSR730 full-sized keys, GM and XG sounds, effects (chorus, reverb, etc), MIDI, complete with full instructions, dust cover and XG song disks £500 ono. Tel David on 0181 802 6458

Yamaha QS300 dance work-station, manuals, leads, disks, stand, headphones, immaculate, boxed with receipt £650 ono. Tel Mark on 01505 872647 after 6pm

Yamaha SY85 synth, including stand, disks, manuals, good condition, plus Sharma 50W keyboard speakers with built-in amp £725. Tel 01604 602398

Yamaha SY85 workstation, good condition, manual, sound disks, boxed £400 ono. Tel Nick on 01689 853060 (London) or 0956 133109

SAMPLERS

Akai CD3000XL sampler, 8Mb expandable to 32Mb, eight outs, SCSI, very good condition, two Akai CD-ROMs worth £200, only £850. Also Roland MS-1 sampler, 4Mb expansion £200 or £1,000 for both. Tel 01637 871909

Akai S01 boxed, home use only, fully upgraded £230. Tel 01206 364070 evenings or 07775 680685

Akai S20 sampler, unused, boxed £240. Tel 01592 781920 (Scotland)

Akai S950 sampler , fully expanded, immaculate, as new, boxed, manuals £350. Tel Geoff on 0181 520 5646 or 0958 366074

Akai S950 with part expanded memory, mint. £345 Tel 0114 220 5519

Akai S1000 belonged to J M Jarre's, 5Mwords, SCSI, AES EBU Digital In/Out, new LCD display £700. Tel Dimitri on 0181 305 6881

Akai S1000HD 8Mb, good condition, manual £600. Tel 0181 778 1955

Casio FZ-1 sampler keyboard, eight outputs, 2Mb, resonant filters, large LCD display, manual with good disk library £230. Tel 01603 7464918

E-mu e6400 sampler, 18Mb RAM, effects card, Zip drive £1,300 ono. Tel Dan on 0171 729 4183 evenings

E-mu ESI4000 Turbo fitted 32Mb, immaculate condition, under warranty £800. Tel Richard on 07803 085530 after 6pm

Ensoniq ASR10 keyboard, 8Mb SCSI, various Ensoniq disks, CD-ROM, excellent condition, boxed, manuals £700. Tel Adrian on 01580 892896 (Kent)

Ensoniq ASR-X Turbo sampling workstation, 18Mb, 10 outs, SCSI interface, optional 'Urban Dance Project' ROM board fitted, 16-track sequencer, superb onboard effects, hundreds of brilliant drum sounds from Dance board, perfect condition, under three months old, boxed with manuals £750. Tel Matt on 01244 343104

Ensoniq EPS16+ rack sampler, 16-bit, eight outs, various sample rates, effects, sequencer, SCSI option, all Waveboy disks, 100Mb library, boxed, manuals, as used by Autechre, LFO

£395. Tel Ian on 01524 33875 or 01524 721047

Roland DJ-70 sampling keyboard, 200Mb library, timestretch, filters, scratch dial, play pads, great for live/DJ work, also good for dance music and remixing, many more features £395. Tel Ian on 01524 33875 or 01524 732047

Roland MS-1 16-bit stereo sampler, 44.1kHz, MIDI, manual £80. Tel Phil on 01282 699017

Roland MS-1 digital sampler with power pack, boxed with manual and receipt, good condition and it can be yours for only £250. Tel 07977 780027 (Bristol)

Roland MS-1 sampler, boxed as new, will swap for *Cakewalk Pro Audio V7*. Tel Lee on 0178 72282 days or 01708 853958 evenings

Roland MS-1 with 5Mb memory card, internal memory of 54 secs, approximately 12 mins with card £250. Tel Dave on 01403 243190

Roland S-550 sampler, excellent condition, hundreds of disk, monitor, manual £400 the lot. Tel Martin on 01442 258423

Roland W-30 boxed as new, home use only, with AKM-575. Tel 01206 364070 evenings or 07775 680685

Roland W-30 sampling keyboard, classic for studio or live work, unique functions, sequencer, eight outs, great high and low pass filters, all manuals and disks, good sample library, plus stand and leads £450. Tel Paul on 0121 551 0077

Roland W-30 sampling workstation, excellent condition, original box, manuals, around 50 disks £500 ono. Tel 0191 259 1132

Roland W-30 workstation, sound, sequencer and sampler, loads of samples, good condition £500 ono. Tel Steve on 01223 524631

SEQUENCERS

Doepfer MAQ 16/3 analogue MIDI sequencer, superb writing and live tool, designed by Kraftwerk, as new £400. Tel Andy on 0117 954 1560

Yamaha QX21 hardware sequencer with manual £40 to clear. Buyer collects. Tel Marcus on 01933 676 880 or e-mail: marcus@sonifex.co.uk

Yamaha QY20 pocket sequencer, linear and pattern record, good GM tones, recently serviced by Yamaha, manual, PSU, p+p £160. Tel Jules on 0131 667 5318 (Edinburgh) or e-mail: jrawlinson@aol.com

Yamaha QY70 £225. Tel 0118 935 1783 or e-mail: hoagy@cix.co.uk

DRUM MACHINES

Alesis DM5 drum module, 540 drum sounds some with effects, fully MIDI controllable with four outputs, trigger-to-MIDI converter with 12 inputs, LCD display, as new, boxed with manual £225. Tel Geoff on 0181 520 5646 or 0958 366074

Boss DR-660 drum machine, excellent condition, 255 sounds, reverb, chorus, nuance, edit capabilities, 808 and 909 sounds, sell for £220. Tel 01523 160361

Boss DR-660 drum machine, rock solid sequence, 808'909 drums, 254 overall sounds, excellent condition, bargain at £150. Tel Rob on 01703 405225 (Southampton)

E-mu SP1200 sampling percussion system, mint condition, boxed, manuals, untouched, as new £offers. Tel Michael on 07957 187440 (London)

Roland TR-606 good condition, unmistakable analogue sounds, reluctant sale at give-away price £100. Tel 07771 648271 evenings

Yamaha DD14 digital percussion, eight pads, 100 rhythm 75pcm voices, scraper, 5 presets, record own rhythms, MIDI In/Out, drum sticks and foot pedal, boxed £105 ono. Tel 01732 453542

Zoom Rhythmtrak 234 boxed with manual, used once £150. Tel Mark on 01392 430458 (Devon)

COMPUTERS

Apple Mac clone, power city 200MHz, 604e, 24-speed CD-ROM, Zip drive, 64Mb RAM, level 2 cache, 4Gb hard drive, System 7.6 software included, keyboard and mouse £540 ono. Tel Nick on 01689 853060 (London) or 0956 133109

Atari 1040 ST 4Mb, manual, SM124 monitor, *Cubase*, loads of floppies and games £200. Tel Ryan on 01761 437273

Atari 1040 ST 4Mb RAM, CD-ROM, hard disk, two monitors, scanner, boxed, manuals, loads of magazines with discs, *Cubase V3* £250 ono, possible swap. Tel Colin on 0131 319 2463 (Edinburgh)

Atari 1040 STE 2Mb with colour monitor and hi-res emulator, loads of games and joystick £170. *Notator V3.15* with handbook, dongle and *Unitor* MIDI extension/SMPTE sync unit £150 or £260 for the lot. Buyer collects. Tel Marcus on 01933 676 880, or e-mail: marcus@sonifex.co.uk

Atari Falcon 4Mb, Emagic *Logic*, dongle, perfect working order, fully boxed, manuals, keyboard, monitor, mouse, excellent computer and software £350 ono. Tel 01932 841118 or 0958 303702

Atari Mega ST 2 with SM124 monitor, features 20Mb hard drive, Cubase, box and manuals £250 or will swap for Novation BassStation rack or outboard gear, ie, effects or compressors. Tel Gurj on 01462 678685 (Herts) any time

Atari STE upgraded to 4Mb RAM with large black and white monitor, *Cubase V3*, mouse, external disk drive, joystick and leads, great condition, boxed £200. Tel 0181 656 7695

PC 64Mb, Epsilon processor, monitor, Turtle Beach Pinnacle soundcard, *Cubase*, Evolution MK-149 MIDI keyboard, Behringer mixer £1,300. Tel 01427 872754

PC 486 SX plus monitor, keyboard, mouse, *Cubase V1.0* (plus manuals), *Word, Excel,* Windows 3.1, good start-up package £100 ono. Tel 0171 607 3256

PC Cyrix PR200+ 64M RAM, 1.2Gb hard drive, AWE32, 8Mb sample RAM, CD-ROM, monitor, *Cubase V3, SoundForge V4* and more, MIDI adaptor £300. Tel Rob on 0178 701282 (Romford)

HARDWARE/SOFTWARE

Creative Labs AWE64 boxed with software, good condition £55. Tel ben on 07899 987807

Cubase V3.02 for Mac, box, manuals, hardly used £250. Tel Richard on 01494 763774

Dance Tools CD-ROM for PC, boxed, swap for Wavelt Gold CD-ROM. Tel 01501 822788 after 6pm

Emagic Audiowerk8 card, two ins, eight outs, S/PDIF in/out, boxed, as new £200. Tel 0181 365 3318

Emagic Audiowerk8 home studio kit, includes professional eight-output soundcard and Logic Audio Discovery V3.0 £350 ono. E-mail: matthew.bucknall@uwe.ac.uk

Emagic *Sound Diver V2.0.5* (Mac), boxed, manuals £125 ono. Tel Neil on 01703 262060 evenings or e-mail neild@musicman.co.uk

Korg 1212 PCI soundcard, two analogue, eight ADAT and S/PDIF in/out, all software, manuals, boxed £375 ono. Tel 0181 889 5144

Level 2 Cache 256K for PowerMac 4400 or compatible clone £20. Tel Neil on 01703 262060 evenings or e-mail: neild@musicman.co.uk

MotU Fastlane one-in, three-out MIDI interface with thru switch for modem/printer, Mac only, boxed, mint condition, includes Mac serial cable. £35. Tel Neil (evenings) 01703 262060 or email: neild@musicman.co.uk

Oberheim Matrix 1000 editor for Atari ST £10. Tel 01623 454888

Pro Tools V3 PCI core system for Mac, 16 tracks of pro audio on desktop Mac, one disks I/O, one DSP Farm card, V4.1.1 software, boxed, manuals £2,200 ono. Tel 00 386 62 212 631 or e-mail: simon.simat@slon.net

Steinberg *ReBirth RB-338* for Windows 95/Mac, hardly used £80 ono. Tel Steve on 01223 524631

Turtle Beach Pinnacle Project Studio, Pinnacle soundcard with digital in/out and Kurzweil daughter-board £400. *Cubase VST V3.5* for PC £200. Tel Tim on 0181 461 5691

Yamaha SW60XG soundcard boxed, good condition. Tel Ben on 07899 987807

RECORDING

Akai DPS12 4Gb hard disk, effects board, eight-track simultanaeous recording, 256 virtual tracks, brand new, only used for one project, superb machine, only a grand. Tel Max on 01226 236413

Casio DA7 DAT machine, digital in and out, carrying case, studio use only, excellent condition £165. Tel 01246 208659 or 04948 98413

Fostex 260 four-track recorder and mixer, Dolby NR, high-spec mixer and controls, as new condition, boxed with manuals, excellent buy £225. Buyer collects. Tel Marcus on 01933 676 880 or e-mail: marcus@sonifex.co.uk

Fostex R8 eight-track reel-to-reel, good condition with MTC-1 timecode sync box, software for Atari and manual, offers. Tel Paul on 01708 349386

Mackie CR1604 mixer, boxed, mint condition £450. Tel 01206 364070 evenings or 07775 680685

Mackie mixer 24:4:2 VLZ, excellent condition, manual £900. Tel 0171 708 0068

Mackie SR 24:4 mixer, six aux sends, four busses, three-band EQ, sweepable mid, excellent condition. Tel Stuart on 01743 350040

RSS Voyager 1 chrome, converts audio to MIDI, ideal for 303s, Planet Phatt modules, live or studio work, brand new £210 ono. Tel Linda on 0181 877 0879 after 7pm

Roland V-80 expanded, digital studio workstation, boxed, manuals, as new £800 ono. Tel 0117 987 7437 (Bristol) or 07957 787765

Roland VS-1680 brand new, never even used, unwanted gift, state of the art £2,200, selling for £1,700. Be quick, it's a bargain. Tel Anthony on 01323 766972 (Eastbourne)

Seck 12:8:2 mixing desk, 12 channels, eight busses, three-band EQ with swept mid, XLR, jack and insert on all channels, home use only with manual, great mixer, £250. Buyer collects. Tel Marcus on 01933 676 880 or e-mail: marcus@sonifex.co.uk

Shure SM57 microphone, brand new, boxed £65. Tel Preben on 0181 374 4977 or e-mail: raunsbj@hum.auc.dk

Spirit By Soundcraft 2400 mixing desk 24:24:24, with meter bridge and patchbay plus Soundcraft 760 MkII 24-track, two-inch tape machine with remote. Both in good working order £3,000. Tel 0181 211 8822

Spirit By Soundcraft Studio 32:8:2, a superb studio level mixer in immaculate condition, Soundcraft quality at only £1,500 ono. Tel Steve on 01474 744683 (Kent)

Tascam 244 four-track, four inputs with inserts, separate EQ on each channel, VU metering, DBX noise reduction, high-speed recording, new mechanism £150 ono. Tel 0171 607 3256

Tascam 488 MkII eight-track portastudio, boxed with manual £450. Tel Mark on 01392 430458

Yamaha MM1402 studio mixer, six mono and four stereo inputs, two effects sends, six XLR inputs, very good condition £250 ono. Tel 01637 871909

Yamaha RM800 16:8:2 three-band EQ, plus mid sweep, four aux sends, plus stereo aux send, good condition, great mixer £380 ono. Tel Nick on 01689 853060 (London) or 0956 133109

AMPS/PA

Acoustic Series 3311 studio monitors, never used, boxed £1,200 ono. Tel 0973 670574

JBL power subs pair, never gigged, brand new, boxed, manuals, 250W, 40Hz-200Hz £850 ono. Tel Al on 01225 422829

Torque acoustic PA MA100/4, four inputs £100. Tel 0956 187261

EFFECTS

Boss SX700 effects processor, 128 fully programmable patches, MIDI controllable, three effects at once, still under warranty £200. Tel 01761 437273

Zoom 1201 superb effects for money £50. Zoom1202 £60. Tel 01206 364070 evenings or 07775 680685

SOUND MODULES

E-mu Orbit V2 year old, boxed, home use only, superb condition £450. Tel Ben on 07899 987807

E-mu Planet Phatt drum n' bass, hip hop, R&B sound module, loads of features, filters, beats, boxed, manual, as new £400. Tel Mark on 01707 8864762 (Hatfield)

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Ensoniq ASRX boxed, mint, upgraded to 18Mb £450 ono. Tel Ben on 0117 970 6951

Quasimidi Rave-O-Lution 309 drum machine, as new, boxed, manual, superb sounds, only £400 ono. Tel Paula on 0976 646788 or e-mail: p.j.hewitt@uclan.ac.uk

Roland CM-32L sound module, boxed £90. Tel 01732 453542

Roland D-550 classic Roland sound module based on D-50, plus extra soundcard £325. Tel Brian Miller on 0181 368 7071

Roland JV-1080 home use only, boxed, manuals £575. Tel 01865 873269 (Oxford)

Roland MC-202 excellent condition £250 ono. Tel Gary on 0181 541 0091 after 6pm

Roland MC-303 Groovebox, 808, 909, jungle kits, fat bass and synth sounds, MIDI compatible, eight-part sound module. Tel Luke on 01202 730256

Roland MC-303 Groovebox, home use only, mint condition, manuals £340 ono. Tel 01225 852784 (Bath)

Roland MC-303 Groovebox, mint, boxed, manuals £350 ono. Tel Neil on 01494 463415

Roland MC-303 Groovebox (x2), sequencer, effects, drum machine, basslines,e tc, first one immaculate £320 ono. Second loose volume knob but works perfectly £300 ono or both for £550. Tel 01637 871909

Roland MC-303 mint, manual £265. Tel Adrian on 01474 335746

Roland MC-505 with five months warranty left, hardly used, boxed, instructions, home use only £650. Tel Will on 0168 810260 after 6pm

Roland MT-32 multitimbral sound module, editable patches £75. Tel Dave on 01403 243190

Roland U-220 module, classic Prodigy sounds and wicked strings, good condition with manual £200 or swap for MC-303, Technox, Rave-O-Lution or anything. Tel Bigg on 01642 272996

Roland U-220 mint condition £245. Tel 0114 220 5519

Roland U-220 sound module, classic Roland sounds, excellent condition £200 ono. Tel Steve on 01223 524631

Waldorf Microwave the original, analogue filter, six outputs, V2 OS, monster techno synth £900 ono. Tel Leigh on 0181 347 6766

Yamaha TG77 AWM and FM (DX7) synthesizer, 16-part multitimbral, built-in effects, Atari editor, lots of sounds, excellent condition £400. Tel 0171 498 4778 or e-mail: giusev@hotmail.com

Yamaha TX1P piano module, 1U rackmount, three piano voices, harpsicord and vibes, excellent condition with manual £120. Buyer collects. Tel Marcus on 01933 676 880 or e-mail: marcus@sonifex.co.uk

MISCELLANEOUS

DBX - 363X dual gate, two separate gates with threshold, hold, release, key inputs, can be stereo coupled £120 ono. Tel 0171 607 3256

Flightcase rack 16U, holds any rack FX processors, amps, samplers, etc, front/rear lids, ball corners, flip handled, castors, brand new condition £240. Tel 0181 318 6930

Future Music issues 22, 24, 40, 46-52 (no CDs, 53-73 with all CDs, FM MIDI Beats Vol. 1 offers or swap/part exchange for gear. Tel Greg on 01325 489780

Sample CDs: Dance Vocals £10. Techno Prisoners £10. Drum N' Bass Carnage £15. Eurotech £15 ono. Tel Jamie on 01636 32191

Sample CDs: No Kick, Back To Basics, Synthasia £15 each or £35 for all 3. All at 16-bit, 44.1kHz. Tel Scott on 0831 505316 or e-mail: dwells1815@aol.com

Theremin £49 plus p+p. Tel Tony on 0171 431 2613 or e-mail: no1@lightnet.co.uk

Various: Akai DPS12 Jaz withe EB2M, many extras packaged, mint £900 ono. Korg Prophecy, mint, boxed, many extras £250 ono. Roland XP-80 expanded, mint £850 ono. Tel Jason on 0403 511682

Various: Alesis MidiVerb 4. Cheetah MS6. Akai S200, 18Mb RAM, additional outboard card. Behringer UltraFX. Composer Pro. Korg X5DR. Mackie 1402 VLZ. Two Ataris with Cubase and dongle. NanoBass. Tascam DA30 DAT machine. Fatar Studio. 610 keyboard. Zoom 1201 effects. Jamo speakers. Includes all MIDI leads, boxeds, manuals, will sell for £5,000 ono. Won't split. Tel Dan on 01285 884460 days or 01285 654268 after 6pm

Various: Apple Mac 7600/64RAM, 1.2Gb HD, CD, VST, Time Bandit, ReCycle, Waves, Autotune, TC and DUY plug-ins, will split £1,300. Mackie 1604 with built-in Ottomix fader automation £900. Roland PMA-5 £200. Volt studio speakers, 35-20kHz £400. Amcron D60 1U rack, studio amp £120. Tel Mark on 01924 216047 after 2pm

Various: Atari 1040 ST, hi-res monitor, Creative Labs Creator SL MIDI sequence system with multi-application manager, boxed, manual, disks, dongle. Yamaha DX7 synth with ROM cartridges. Red Planet 320 cartridge. Copy of *Cubase V2* and *V3.0*. All £300 ono. Tel Matt on 01786 270960

Various: Atari 1040 ST, monitor, Cubase, leads, book £170. Alesis SR16 £120. Tascam Porta 01 £80. Marshall Valvestate 808 amp £200. Patrick Eggle NY bass £200. Tel Paul on 01280 705146 evenings

Various: Atari 1040 STE, 4Mb RAM, 150Mb hard drive, monitor £120. 40 *FM* magazines (with CDs) £120. Samick guitar bubinga wood finish £150. Tel Andy on 0151 255 2714 Monday-Friday 9am-4pm

Various: Atari ST 4Mb, hi-res monitor, Cubase 3.1, all leads, mouse £25. Kawai K4 and Drawmer LX20 dual expander compressor £400 for both or will swap for E-mu Orbit. Tel 01788 860357

Various: Atari STE, 4Mb, colour hi-res monitor £200. Yamaha TG55 £180. ART Multiverb LTX £150. Casio CZ-101 £150. 110W slave amp £75. Tel Chris on 01257 412567

Various: Boss DR-660, boxed, manual £180. Yamaha TG300 with large LCD displaying all 16 channel set-ups, with manual £120. Good condition. Tel Glyn on 01582 670274

Various: Casio CZ-5000, Yamaha RX21 drum machine, Tascam Porta 07 plus Yamaha YST-M10 monitors, Casio AS-20 amps, Atari 520 STFM plus software, all manuals, stand, etc £600. Tel 01827 830670

Various: *Cubase V3.04* for PC, boxed, manual, dongle, eight tracks audio £180. MIDI flyer PC interface £35. I/O box £15. All excellent condition. Tel Lynne on 01599 522395

Various: *Cubase VST V3.6* PC version, new unwanted gift £220 ono. Korg M1 expanded, mint £400. Tascam 424 portastudio, hardly used £200. DR-660 drum machine £180. Akai S01 sampler, expanded. Tel Barry on 01904 631570 or e-mail: thumbski@fdn.co.uk

Various: Danelectro U2 guitar, couple of months old, cream-turquoise finish, two 'lipstick' style pickups £150. Labyrinth *Cubase* manual £12. Fostex DMT8VL eight-track hard-disk multitracker, with Version 2 software, as new, easy to use, manual, boxed £550. Akai S2000, as new condition, manual, disks, box, 2Mb, easily expanded to 32Mb £410. Yamaha SU10 phrase sampler, stereo, very good condition, with manual £150. Tel 01933 678608

Various: E-mu ESI4000, 32Mb, five months old £650. Atari Mega ST, 124 monitor £150 or £725 for both. All boxed, mint with software. Tel 01203 397323

Various: E-mu Proteus/1, 16-bit sound module £150. Roland U-220 16-bit sound module £200. Alesis QuadraVerb plus effects £150. Simmons SPM 8:2 MIDI programmable mixer, 1U £150. Boss DR-550 16-bit drums £75. Roland PAD-5 MIDI drum pads £75. Cision MCV-20 MIDI-to-CV converter £60. All items in very good condition and include box and manual. Tel Andy on 01977 660284 dasy or 01430 431684 evenings or e-mail: andyvessey@myhouse28.freeserve.co.uk

Various: Ensoniq EPS16+, 2Mb, boxed, manuals, disks £300. Yamaha MT8X MkII eight-track multitracker, boxed as new £300. Tel Scott on 01450 370138 or e-mail: sdeans@bigfoot.com

Various: Fostex DMT8-VL, eight-track recorder £650 ono. Sony A6 DAT recorder £325 ono. Atari 1040 STE computer plus SM124 monitor and sequencing software £150 or everything for £1,000. Tel 01923 234398 after 5pm

Various: Fostex R8 boxed with looms. Studiomaster mixing desk. JL Cooper PPS100. Alesis Micro-Verb III. Alesis NanoCompressor. All manuals. Tel Alex on 01905 421686 or 07957 107035

Various: Fostex R8 eight-track reel-to-reel with looms and tapes, serviced £300. Fostex X28 multitracker £100. CSQ100 sequencer £30. Antari smoke machine unused £40. Power Mac 7100 twin monitors with software £300. Party laser machine £50. All ono. Tel Richard on 01656 880267

Various: *Future Music* issues 1-41, 43-45, 53, 55, 57-8, 61, 63, 66-78, all with CDs £50 ono. Korg Trinity with 8Mb sample RAM £1,195. ReBirth V2.1 £45. Zoom 9001 effects, pedal board £45. Tel Alex on 01695 623968 (Lancashire)

Various: Home studio clearout £3,500 ono the lot! Akai S3000XDi. Behringer MX2642 desk. Novation BassStation. Boss DR-660. Roland MC-303. Alesis compressor. ART effects. Philips CDR-880 CD-R writer. Pentium 200 MMX with *Cubasis*, AWE64 soundcard, sample CDs, cables, etc. Tel 01375 858098 (Essex)

Various: Kawai K4 £250. Peavey Bravo, all-valve, 25W combo £125. Apple Mac Performa475, 36Mb, LCII, Style Writer II, 14-inch monitor £250. Tel Adam on 01924 499625

Various: Korg 01W/FD, immaculate condition, dance cards, various sound disks, manuals, carry case £600. Fostex 812 mixing desk with Yamaha FX500 effects unit £250. Tel Ken on 0191 287 1583

Various: Korg Prophecy £450. Yamaha DJX including PSU £195. Korg X5D £275. E-mu PR-One stereo piano module £95. Atari 4Mb, SM124 monitor, Cubase, handbook £275. All mint! Tel Chaz on 01582 526534 (Dunstable)

Various: Korg Trinity Plus, fitted with Prophecy card, playback sample RAM options £1,100 ono. Yamaha AN1x, two months old £470 ono. ReBirth V2.0 £40 or free if bought with Trinity+ or Yamaha AN1x. Tel Alex on 01695 623968

Various: Korg Wavestation keyboard, vector control, manual £400. Spirit Folio Notepad mixer, brand new £100. Atari ST, hi-res monitor, Cubase, printer £150. Tel 01865 371446 (Oxford)

Various: Korg Z1, digital out, ADAT board, mint £1,050. Atari 1040, Cubase, RePlay £70. Various sample CDs £40. Tel 0141 427 9850

Various: Kurzweil K2500X 88-note, fully weighted synth workstation, sample option, 32Mb RAM, fan kit, 32-track sequencer, Digitech FX board, CD-ROM drive £2,800 ono. Boss GT-5 £400 ono. Sample CDs £20 each. Tel Dave on 0181 555 2588

Various: Mackie 1604 VLZ £500. Mackie mixer £200. Behringer Mastercom £200. Behringer Quadgate £100. Joemeek VC3 £100. Tascam four-channel parametric EQ £100. Rane Mojo compressor £150. Fostex D80 £600. Alesis NanoCompressor (x2) £30 each. Tel Ed on 01597 840287

Various: Moog Prodigy analogue monosynth, very good condition, fully working, original manuals, plus Kenton Pro Solo MIDI-to-CV converter £400. Kawai K4 £220. Evolution EVS01 £70. Tel Simon on 01582 419337 (Luton)

Various: Novation Super Bass Station rack, boxed, manual, mint £350. Novation DrumStation rack, 88, 909 with distortion, mint £350. Roland MVS-1 vintage synth rack, eight-part multitimbrality, drums £230. Tel Steve on 01202 777240

Various: PC 486, Cubase Audio, XP-50, S2000, outs, 32m, Pulse, Folio SX, Studio Quad, MC-303, FB01, Quad 405, JBL 428, Zip disks, CDs, leads, allmint £2,600 no offers. Tel Jim on 0181 332 9310

Various: Quasimidi Technox, as new, boxed £350. D-50, extra sounds, mint £325. Casio CZ-1, extra sounds, perfect condition £200. Prophet 2000 sampler, large library, good condition, needs disk drive repair £300 ono. Atari 1040, monitor £80 ono. 486 PC, Cubase V1 £150. Cubasis Audio for PC, four audio tracks £50. Consider part exchange for rack effects. DX7 ROM cartridge No. 7 £15 ono. D-50 ROM cards 00 to 03 £15 each or £50 for all. Tel 01902 744293

Various: Quasimidi Technox, good as new, never gigged £420. Kawai K4R, with three RAM cards, Atari editors and 1,000 sounds on disk, only £210. Tel Geo on 0171 686 0104 (London)

Various: RePlay 16 sampling cartridge plus drum beat and editors £60. Pro 24 original Steinberg sequencer software, dongle, boxed, manual £400. All for Atari. Tel Ste on 0151 287 7888

Various: Revox CZ78, half-inch, eight-track, fully serviced, immaculate £1,000. Allen & Heath S2 16:4 mute automated mixer, home use only £550. Alesis D4 £180. Yamaha FX900 £150. ART FXR £80. Tel Kevin on 01202 487374

Various: Roland A-33 controller keyboard, new Roland M-GS64, new Akai vintage module SG01V. Atari, 4Mb, STE, SM124, Cubase V3.1, 1,200+ rock/pop MIDI files, all mint, boxed, best job lot offer, may split. Tel 01639 7603

Various: Roland A-880, eight-in, eight-out, MIDI patchbay, merge ins, Atari software £95. Pocket Mac, one-in, two-out, MIDI interface £25. Ensoniq SQ80 workstation, many extra sounds £295. Tel Fred on 01633 266647 evenings

Various: Roland DJ-70 sampling keyboard, designed for and will make you dance £95. Ensoniq EPS16+ rack sampler, fully spam'd up £395. Korg NS5R synth module, over 1,000 sounds £275. Tel Ian on 01524 33875 or 732047

Various: Roland Jupiter 8 with flightcase £800. SH-09 £180. Alesis MidiVerb IV £160. Yamaha DX7 MkI £200. Offers considered. Tel Carl on 01622 737293 (Maidstone)

Various: Roland JV-1080 £550. MotU four-in six-out SMPTE interface £225. Alesis 3630 compressor £100. Absolute Zero monitors £100. Behringer 1602A mixer £110. Denon power amp and twin cassette deck £60 each. Trace Eliot compressor £60. Tel Ian on 01243 781594

Various: Roland MC-303 Groovebox, mint condition, manuals £300 ono. Roland SH-09 calssic analogue bass monosynth £200 ono. Tel Adam on 0181 360 7677 (North London) evenings

Various: Roland MC-303, manual, PSU £300. Yamaha SU10 sampler and CDs £150. Intimidation Apex mixer £120. Tel Ian on 01527 456010 (West Midlands)

Various: Roland M-DB1 bass and drums module £175. Yamaha MT120S cassette four-track with dbx noise reduction £150. Atari 1040 STE boxed £75. Tel Will on 0115 847 9468

Various: Roland M-DC1 dance module £200 ono. Kawai K4R module £180 ono. ART SGE Mach 11 effects unit, rackmount £120 ono. May deliver and swap ro part exchange. Tel Vaz on 01555 665328 or 0411 382864 (Strathclyde)

Various: Roland MKS-50 synth module, superb Juno 2 sounds, manual, good condition £280. Akai S01 sampler, excellent condition, few hours use £280. Roland Jupiter 4, analogue polysynth, good condition £495. Tel 01582 611262/614016

Various: Roland SH-101 £265. Korg 700S £265. TR-606 £155. Pulse £250. Ibanex delay with knobs £99. Doepfer HPF £49. Mac music system £399. Tel Tom on 01384 353694

Various: Roland SH-101, battery cover missing £200 ono. Roland MC-50 MkII hardware sequencer, absolute mint, still in box £380 ono. Tel Ben on 01934 743781

Various: Roland SH-2000, superb £125. Roland JX-3P with PG-200, excellent £250. Korg M500SP micro preset £120. Korg Poly 6 £180. Tel 01288 354905

Various: Roland TB-303 £600. Roland TR-808 £500. Tel 01273 603067 (Brighton)

Various: Roland TB-303 and TR-606 £500 the pair. Juno 106 £400. MVS1 vintage synth £250. Korg MonoPoly £425. Korg KMS30 sync unit £120. Kenton Pro 2 £120. Various music mags, approx 120, offers. Tel 01708 523469

Various: Roland TR-505 £50. Yamaha SPX90 £120. Alesis 16:2:2 mixing desk £130. Tel Alex on 0181 360 6684

Various: Roland TR-626 drum machine £40. Anatek MIDI filter, solves problem of 303 receiving on all channesl in sound module mode £20. Buyer pays carriage. Tel Ed on 01642 478229

Various: Roland TR-707 drum machine. Studiomaster Star System EP6 mixer. Tel Steve on 01453 824605

Various: Roland VS-880 fully expanded, 1.44 internal hard drive and training video boxed £900. Fostex E16 multitrack, good condition, 2x16-way looms, including tone tape £850. Tel Steve on 01525 373326

Various: Roland XP-80 workstation, mint, manuals, boxed £1,000. Korg X3 workstation, occasional home use, manuals, boxed £400. 100W keyboard amp £50. Ultimate keyboard stand £50. Tel 01296 747372 (Bucks)

Various: Soundlab DSM15 DJ mixer £45. 44-way mono patchbay £30. Soundquest MIDI Tools (PC) £25. Various sample CDs (techno, trance, analogue grooves, Vince Clarke, funk guitar, techno T3, voice Spectral) £20 each. 2U rack tray £20. Tel Carl on 01507 606956

Various: Soundscape SSHDR1+, V2.0, SS810 expansion module, Pentium 60 including 17-inch monitor, all for £2,100. Korg Z1 £850. Spirit By Soundcraft Studio 24:8:2 mixing desk £800. All items boxed, 18 months old and in very good condition. Tel Dave on 01323 832410 (South East) or 0403 575 996 or e-mail: dholland@netcomuk.co.uk

Various: Spirit By Soundcraft Studio 16:8:2, 40 inputs, four-band EQ, six aux sends, 100mm faders, eight-way loom, Alesis MicroVerb IV, Behringer Composer, compores-sor, power supplies, quick sale £550. Tel Andy on 01274 876088 (West Yorkshire)

Various: Studiomaster Diamond 8:2 mixer £120. Roland MT-32 general MIDI synth/expander £120. Alesis D4 drum module, excellent realistic drum percussion sound set £200. All excellent condition. Tel Charlie on 01703 813057

Various: Tascam 38, half-inch eight-track recorder, excellent condition, home use only £590. Tascam M30 mixer £350. Tel Roy on 01227 760333

Various: *Twiddly Bits* Vols. 1-4 and 7 £10 each. *Drumtrax Worldtrax* MIDI Cube 1 & II £15 each. Sounds for DX7, Prophecy K5000, Microwave XT, D-50, MKS-70, Nord Lead, Wavestation and Matrix 1000/6 £15 each for many banks, suited for every computer. Contact Danny Budts on 00 32 3542 0411 or write to Pastorijveld 28, 2180 Ekeren, Belgium

Various: Yamaha A3000 £1,000. Roland MC-505 £850 ono. Both brand new, boxed, guarantee, manuals. Spirit By Soundcraft Folio SX £300. Absolutely immaculate. Will arrange and pay delivery costs. Tel Ricky on 01232 28068 (Belfast) any time

Various: Yamaha AN1x, as new £450. Yamaha DX11, excellent condition, manual £170. Roland CM-32L module, instructions £50. Tel James on 0114 266 8299 (Sheffield)

Various: Yamaha AN1x, as new £450 ono. Yamaha DX21, near mint condition £175 ono. Yamaha MT120S four-track £250 ono. Boss DR-550, mint £150. Roland D-5, needs attention £200 ono. Tel Roy on 01843 845057

Various: Yamaha CS1x, great condition £290. Roland DJ-70 classic sampling workstation £290. Yamaha RY30 drum machine, four outs £95. All home use with manuals. Tel Steve on 0181 529 1854

Various: Yamaha QY70 XG module and sequencer, excellent sounds, FX, 16-track sequencer, as new, boxed £320. Phat.Boy controller, as new £80. Evolution Dancestation software and keyboard £40. Tel Paul on 01222 453898

Various: Yamaha RY30 drum machine, boxed. Korg KMS30 sync 24 MIDI tape sync, offer. Tel 0113 252 8676

Various: Yamaha SY85 synth, disks, data cards. Yamaha RY10 rhythm programmer. Atari 1040, two disk drives, hi-res monitor, *Cubase V3.0*, boxed, manuals, dongle. Rack compressor. Studiomaster mixer Session Mix 8:2. Vintage bass guitar, 50W amp, leads, MIDI hi-fi £1,500 ono. Tel 01786 270960

Various: Yamaha TG500 tone module, 64-voice polyphony, 16-part multitimbrality, FX, boxed, manual, perfect bargain £290 in p+p. Roland SH-101 £250 inc p+p. Tel Martin on 01522 820112 (Lincs)

WANTED

***ACID* loops** 10-CD set for the *ACID* program. Tel Jay on 0171 482 4232

Akai EXM006 expansion boards wanted for Akai S950, two are required, must be sensible price. Tel Nick on 01903 504747 or e-mail: restricted_mind@hotmail.com

Akai iB304F filter board and Alesis 3630 compressor wanted. Will pay £200 for both. Tel Rob on 0191 421 5388 (Newcastle)

Akai MPC60 sampling drum machine, cosmetics not too important, pay up to £450 for a MkI. Also required: Roland CMU-810, stereo beta system, 8mm Sony editing deck, good price paid. Tel 01604 843536

Akai S3000XL wanted for swap/part exchange with: Roland DJ-70 sampling keyboard, Ensoniq EPS16+ rack sampler, Korg NS5R synth module, all items up for swaps/part exchange. Tel Ian on 01524 33875 or 01524 732047

Analogues wanted for enthusiast's studio, working or not, TR-909 around £600. TB-303 aroun £400. TR-808 around £350. OSCar around £550. ARP2600 around £1,250. Wasp Deluxe and other similar gear considered. Tel 01353 663613

Betamax stereo VCR, Sony PCM601 or 701 or better, NTSC Super Beta, Sony Walkman WMD6C recorder, Roland CMU-810, Sony EVS 8mm system, parts for TB-303, faulty beta considered. Tel 01604 843536

Casio VL-Tone and anything to do with it wanted, gimme some 'da-da-da", Casio junkies please write to Jonni, F5, 328 Gillott Road, Edgbaston, Birmingham, West Midlands, B18 0RS

Cubase for Mac wanted, not VST or Audio, for early slow Mac, used just for MIDI sequencing, can swap for various Mac goodies. Tel Daniel on 01403 701096

Cubase Lite program for Atari 1040 wanted. Tel Mark on 01268 685929

Desperately need a copy of *Cubase* for ST, no money you see, would be very grateful, may be able to return the favour, just starting up. Tel 01633 674040

Drawmer M5000, programmable dynamics, Drawmer 1960 compressor, Drawmer 1962 preamp, sound cards for Morpheus, Wavestation and Microwave, Dolby 740 Focusrite Reds. Tel 01535 645233 evenings

Emagic *Audio* *Logic Platinum* or *Gold* for PC. Tel Ritz on 0116 212 6769

E-mu Vintage Keys and Roland Juno 106, both in good condition only, could be interested in part exchange with Nord Lead rack. Tel George on 01603 870611 or 07775 652375

Future Music magazines, issues 46 and 57-67 and 71 (plus CDs), cash waiting. Also Korg 01 sounds wated on cards or disks, cash waiting. Tel Louis on 0161 482 8488 evenings

Korg MS20, Teisco 110F. Cash waiting. Tel 0121 745 9417

Korg Z1 must be mint with box and manuals, cash waiting. Tel Robert on 01274 (Bradford)

Manual for Korg DDD5 digital drum machine, also cards. Write to DJ RK, Tilstock House, Tilstock, Whitchurch, Salop, SY13 3NR

Manuals for Kawai PHM sound module wanted. Tel Francis on 0141 211 5509 days (except Wed) or e-mail: fgloch@yahoo.com

Moog MultiMoog circuit diagram and/or service manual, or a good photocopy, urgently needed for a very poorly synth. Tel 01535 645233 evenings

MPC3000, TC Fireworx, Alesis DM5, EMS vocoder and filterbank, Korg Z1, ATC1, E-mu Carnaval. Tel 0181 248 3391

Novation Bass rack and DrumStation, will pay £150. Also Roland M-VS1 vintage synth module, will pay £175. Behringer Composer and Virtualizer, will pay £100 each. Tel Daniel on 01273 328815 (Brighton)

Quasimidi Rave-O-Lution 309 must have all expansion boards and be under six months old in immaculate condition. Tel 01900 814649 or e-mail: alan5@djswift5.freeserve.co.uk

Quasimidi Raven preferably with Max expansion board, will pay £450 ono. Also looking for Yamaha AN1x, Roland JP-8000, theremin. Tel Steve on 01483 259393 ext 4394 (Surrey) after 6pm

Rockman Sustainer working unit preferred but a dead one would also be welcome, please supply manual if possible. Tel Chris on 01723 365736 (North Yorkshire). You may get an answer machine but I'll ring you back

Roland MC-50 MkII sequencer wanted, will swap for Cubase V3.5 VST for PC, dongle, unregistered, plus Diamond Vocals and Voice Spectral II sample CDs, must be MC-50 II version, not just MC-50. Tel Rob on 0191 421 5388 (Newcastle)

Roland OP-760, S-760 expansion board, will pay £150. Roland JX-10, must be in immaculate condition, will pay £400 for such an example. Tel 0181 298 0519

Roland SR-JV80-06 dance board for XP-80/60/50. Tel Al on 01225 422829

Roland TB-303 wanted, good working condition, will pay around £350, cash waiting, will collect. Tel Jonny on 07971 193170

Soundcards for E-mu Morpheus, Waldorf, Microwave MkI and Korg Wavestation wanted. Also service manual for Oberheim Xpander. Tel 01535 645233 or e-mail: p.a.mahoney@bradford.ac.uk

Yamaha A3000, AN1x, E-mu Orbit, e6400,

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Akai S3000XL, Roland JV-1080, 2080, JP-8000, SP-88, Korg Trinity, JD800, Nord Lead, Orbit, Promix 01, Lexicon, ARG, DA20 DAT or similar. Cash waiting. Tel 01252 677059

PERSONNEL

Depeche Mode tribute band looking for singer and new keyboard player, looking to tour, also management welcome. Tel Eddie on 0141 578 4404 (Glasgow)

DJ seeking promoters in Essex and London areas for the latest in trance, uplifting house sets, for top-quality mixing, demo on request tel Russ on 01245 420852

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Drummer wanted with flair and innovative style to join band for live and studio work. Influences: hip hop, drum n' bass, funk, must be experienced, have own transport and equipment. Tel Leo or Ben on 0171 247 2994 or 04325 276808

Female vocalist aged 18-26 needed by male songwriter in Wrexham, Chester area to form group to aim for record contract. Influences: jazz, trip hop, DM, Dylan. Tel Rich on 01978 821648

Female vocalists required for projects by Independant Record Company, also interested in musicians including DJs, send photo and demo with return postage to ZAPIT Music, 94 Carfax Avenue, Surrey, GU10 1BB

Frontman/rapper wanted, must have good vision and concepts for experimental project based in Berkshire. Charisma and commitment a must. Influences: Nine Inch Nails, Optical, Aatral, Tricky, DMX, we have equipment. Tel Chris on 01753 822790

Fustrated techno DJ with experience on underground scene has own record label, wants decent work playing all good hard techno from early hit house, holy noise, Belgian rave sound to recent PCP Frankfurt stuff. Tel Jim on 07970 879794

Guitarist wanted: jungle, rock, crossover band seeks 100% committed guitarist for gigs, etc. Into Goldie Sensor, Prodigy, Republica, Apollo 440, etc. MIDI welcome. Tel 0181 889 7536

Male or female vocalist required for gigs, must have excellent voice and be confident performing in front of 300+ audiences. Tel Leo on 01254 832092

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Technology genius required, band with management pursuing imaginative experimental synth sounds, samples, cuts, etc. Massive Attack, Depeche, DJ Shadow, Björk, Portishead. Tel Craig on 0161 445 9050 (South Manchester)

Undergraduate (Salford University) Pro Audio and Video, requires work experience (*any* type considered) for summer vacation, keen, enthusiastic, flexible and willing to learn, I possess a wide range of skills inc:luding MIDI, sampling, programming, analogue, dynamics, effects, general electronic offic skils and graphics experience, CV and demo available on request. Tel Ed Kelly on 0161 745 9352 or e-mail: e.a.kelly@eee.salford.ac.uk

Virtuoso type programmer/synth geezer plus appendix rupturing drummer required for mass aural slaughter via live dance band, influences: Chemicals, Motown, Bentleys, Sking and all that jazz. Tel Phil at Room 316, 0181 341 2709

Vocalist wanted: writer in studio seeks female vocalist with attitude and passion for project pending release. Must have commitment and desire success. Tel Mark on 0114 278 7767 (Sheffield area)

HELP

Anybody who owns hi-fi home cinema system or works in recording, or trying to create new kind of sound or who is just interested in extremal sound experiments to help in realisation of new idea. Satisfaction guaran-teed. Tel Darek on 0181 534 9502

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I need Cubase owners who, for money, will help me with my Cubase program. Also a manual for Cubase wanted. Tel Arran on 01905 821481 (Worcester)

Seeking drum machine made by Cheetah, probably called Spec Drum, around 12 years old. Tel Selwyn on 01344 041367

SOUNDS

Artists wanted for new label (techno electro, d n' b, trip hop), send demos (tapes only) to Mark, Flat 4, 2 Aigburth Vale, Liverpool, L17 0DE or tel 0151 727 7644

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Artists required for new label, all styles considered, send demos to Phatcraick Records, 1F1 21 Merchiston Crescent, Edinburgh, DH10 5AJ. Cassette only, enclose SAE for return

Attention all drum n' bass and hip hop producers, new record label, starting early summer 99, wants demos for possible deal. This could be what you are looking for. Send tapes, DATs, etc to Ryan, 246 Cardigan Road, Leeds, LS6 1QL

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Nice bytes: drum loops, chord lines, arpeggio grooves, basslines, Newtronic ARPs, gates, trip hops, kraftwerks £10 each. Contact Danny Budts on 00 32 3542 0411 or write to Pastorijveld 28, 2180 Ekeren, Belgium

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Aspen Pittman

We talk tubes and more with the founder of Groove Tubes, currently celebrating 20 years of comfortable warmth...

Formed in 1979 by Aspen Pittman, Groove Tubes are specialists in all things tube-related. From guitar amps to microphones, the GT symbol adorns the studios and stages of everyone from Van Halen to The Artist Formerly Known As Prince. Starting life as an enthusiastic garage workshop before forming an alliance with Alesis and Sound Technology, the Groove Tubes ethos has remained unchanged – providing quality tubes for discerning audio professionals.

How did Groove Tubes start?

Groove Tubes is in its 20th year. Prior to that, I had about seven years experience in manufacturing. I started out as a sales rep and product developer for Acoustic Amplifiers, and went on to become marketing director. They made the old bass amps that Jaco Pastorius used to use. Before that I was working in retail at the Guitar Centre in Hollywood. I was a folk-playing performer and I didn't really like electric guitars. But as I started to use them, I realised that tube amplifiers sounded more acoustic than solid state ones.

Sadly for Acoustic Amplifiers, I left before they started manufacturing tube amps. The engineers there felt that there was no future in tubes. I had been pushing for them to build a tube amp for so long it got frustrating. I started looking at replacement tubes. I set up Groove Tubes in 1979, enlisted a group of engineers, and started to look at the properties of tubes. Gain ratios didn't seem to make much difference musically, but we considered using tubes as tone devices. No one had looked at that side before, and we found that there were great variances tube to tube. We were able to come up with a set of tubes that you could plug into your amplifier and really notice an improvement. From the beginning it was a recording thing. Back in 1979, The Doobie Brothers were recording an album with our stuff, and they absolutely loved it. That's how Groove Tubes was born.

Where did the interest in recording gear and microphones stem from?

I was very interested when digital recording came about. I had been very interested in studio gear for my own pleasure. We were supplying a lot of tubes for studio gear, and it dawned on me, because I'm a musician, that there was a real market for tube mics, but many of them were too expensive for many people. In terms of electronics, there's not really much there, so we launched our first tube mic at under $1,000. We launched our whole microphone production side of Groove Tubes at that point. That first model [MD1] is used by lots of artists. Our key was to not imitate what AKG or Neumann were doing, but to up the circuitry designs. As we learned more about capsule design, the series took off. We were still a very small company, and I got to a point where I either had to expand the manufacturing side, along with all the guitar products we were involved with, or let someone who was better at building to take over that side and concentrate on ideas more.

Tube strikes: Groove Tubes supremo Aspen Pittman

How has the Alesis collaboration altered things?

The production facility has changed from being a small facility to a large 'skunk-works' for Alesis. That's given us the opportunity to have a really exciting agenda of products to release in the near future. And we stay very much involved in the day-to-day engineering decisions of the company.

What are the advantages of tubes?

There are a lot of misconceptions about tube equipment. One is that people like tube gear because it distorts. That's the last thing we do. We manufacture tubes for a dynamic advantage; to make clearer pictures, and that has little to do with distortion. In the head amp of a mic, it's more to do with impedance rather than gain. There are certain tubes that are ideal for that. The tubes we have produced have very little self-noise, as do all of our products, including the power supplies, at a fraction of the cost from years ago.

What new products are imminent?

The microphones are what you might call a 'no brainer', we know what the design goal is. But when it comes to pre-amps and processors, although there are standard features, there are many discussions going on about what we can bring new to the table. We have a long-term business and personal commitment to stay with the product line we are doing with Alesis over a long period of time. And it's an ongoing plan to develop the ideas we have at the moment into lots of new products. I'm in discussion a lot with engineers about what they want to see happening, and that helps us to develop new ideas. There will be a new concept in mic pre-amps coming soon which, without getting too specific, will really put the industry on its ear. We've got eight additional products coming out within the next few months.

Any final words?

One of the things that bothers me about the microphone industry is that mics are not sold correctly. The industry is really falling down on this point. We have a product planned called the mic locker, which is a microphone comparison system. It has four mic pre-amps, four headphone amps and four switches, so you can rapidly switch between four microphones for comparison purposes. I'm hoping that will enable people to make a more reasoned value judgement. We are going to create the environment for that controversy. I think we'll have a really fun race! • *Nick Serre*

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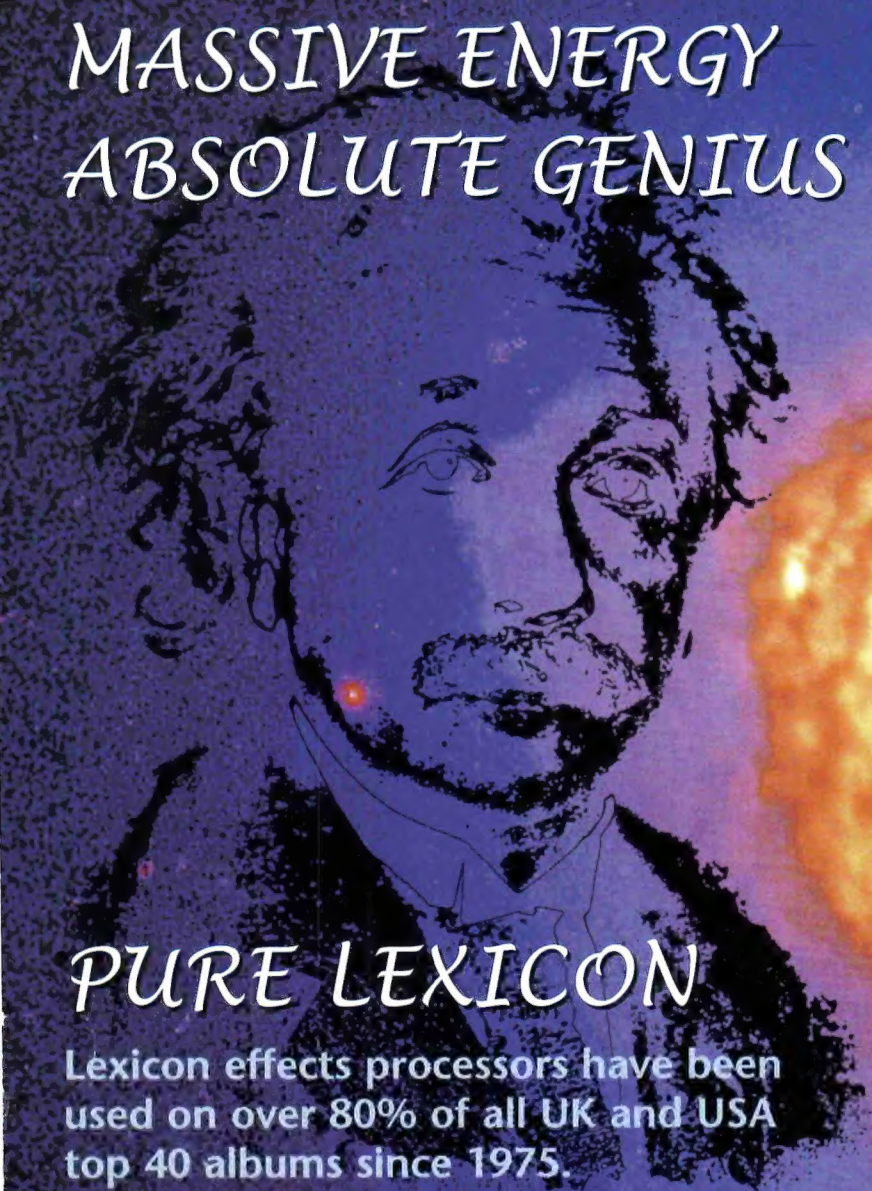

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